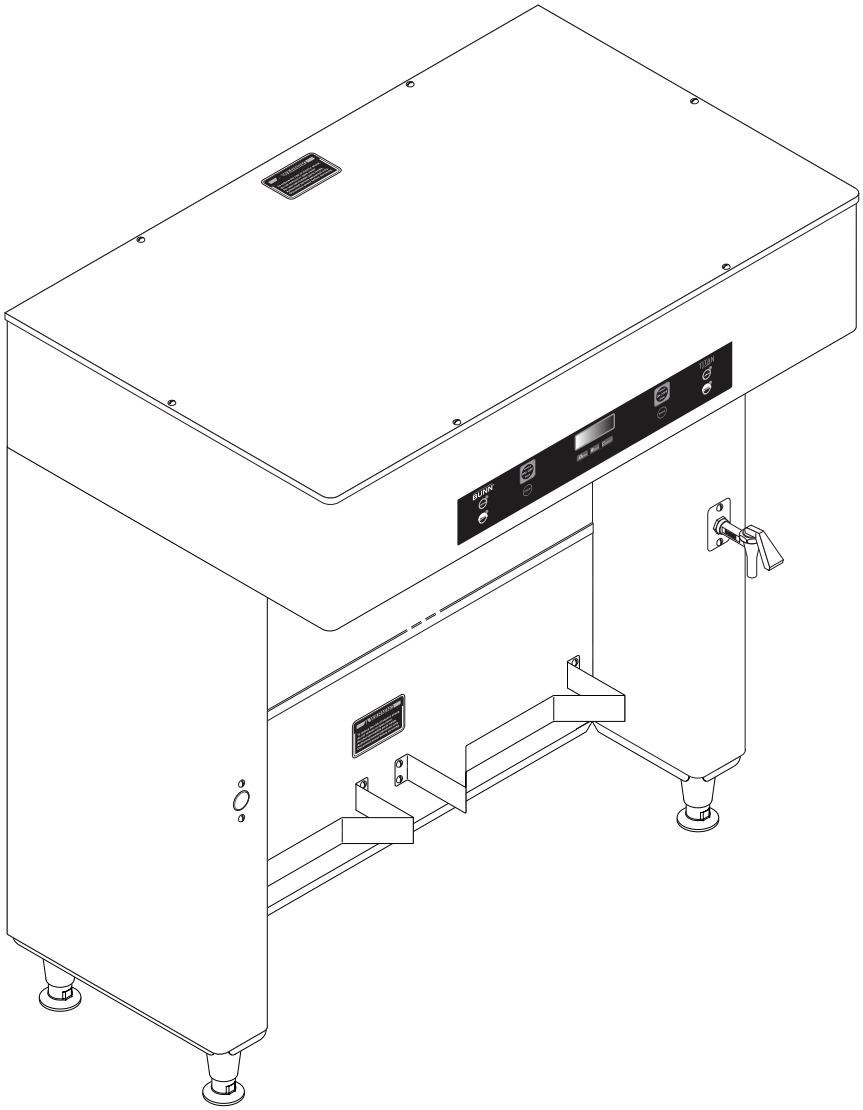
BUNN®

TITAN DUAL™



INSTALLATION & OPERATING MANUAL

BUNN-O-MATIC CORPORATION

POST OFFICE BOX 3227
SPRINGFIELD, ILLINOIS 62708-3227
PHONE: (217) 529-6601 FAX: (217) 529-6644

To ensure you have the latest revision of the manual or to obtain the illustrated parts catalog, please visit the Bunn-O-Matic website, at www.bunn.com. This is absolutely FREE, and the quickest way to obtain the latest catalog and manual updates. Contact Bunn-O-Matic Corporation at 1-800-286-6070 to obtain a paper copy of the required Illustrated Parts Catalog mailed via U.S. Postal Service.

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BUNN-O-MATIC COMMERCIAL PRODUCT WARRANTY

Bunn-O-Matic Corp. ("BUNN") warrants equipment manufactured by it as follows:

1) All equipment other than as specified below: 2 years parts and 1 year labor.

2) Electronic circuit and/or control boards: parts and labor for 3 years.

3) Compressors on refrigeration equipment: 5 years parts and 1 year labor.

4) Grinding burrs on coffee grinding equipment to grind coffee to meet original factory screen sieve analysis: parts and labor for 3 years or 30,000 pounds of coffee, whichever comes first.

These warranty periods run from the date of installation BUNN warrants that the equipment manufactured by it will be commercially free of defects in material and workmanship existing at the time of manufacture and appearing within the applicable warranty period. This warranty does not apply to any equipment, component or part that was not manufactured by BUNN or that, in BUNN's judgment, has been affected by misuse, neglect, alteration, improper installation or operation, improper maintenance or repair, damage or casualty. This warranty is conditioned on the Buyer 1) giving BUNN prompt notice of any claim to be made under this warranty by telephone at (217) 529-6601 or by writing to Post Office Box 3227, Springfield, Illinois 62708-3227; 2) if requested by BUNN, shipping the defective equipment prepaid to an authorized BUNN service location; and 3) receiving prior authorization from BUNN that the defective equipment is under warranty.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY OTHER WARRANTY, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF EITHER MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The agents, dealers or employees of BUNN are not authorized to make modifications to this warranty or to make additional warranties that are binding on BUNN. Accordingly, statements by such individuals, whether oral or written, do not constitute warranties and should not be relied upon.

If BUNN determines in its sole discretion that the equipment does not conform to the warranty, BUNN, at its exclusive option while the equipment is under warranty, shall either 1) provide at no charge replacement parts and/or labor (during the applicable parts and labor warranty periods specified above) to repair the defective components, provided that this repair is done by a BUNN Authorized Service Representative; or 2) shall replace the equipment or refund the purchase price for the equipment.

THE BUYER'S REMEDY AGAINST BUNN FOR THE BREACH OF ANY OBLIGATION ARISING OUT OF THE SALE OF THIS EQUIPMENT, WHETHER DERIVED FROM WARRANTY OR OTHERWISE, SHALL BE LIMITED, AT BUNN'S SOLE OPTION AS SPECIFIED HEREIN, TO REPAIR, REPLACEMENT OR REFUND.

In no event shall BUNN be liable for any other damage or loss, including, but not limited to, lost profits, lost sales, loss of use of equipment, claims of Buyer's customers, cost of capital, cost of down time, cost of substitute equipment, facilities or services, or any other special, incidental or consequential damages.

BrewWISE, BUNN Gourmet Ice, BUNN Pour-O-Matic, BUNN, Bunn-OMatic, Bunn-O-Matic, BUNNserve, BUNN Espress, DBC, Dr. Brew, Dual, EasyClear, EasyGard, Easy Pour, FlavorGard, Gourmet Ice, Gourmet Juice, High Intensity, IMIX, Infusion Series, Legendary for Quality, The Mark of Quality in Beverage Equipment Worldwide, My Café, PowerLogic, Safety-Fresh, Single, Smart Funnel, Smart Hopper, Soft Heat, SplashGard, System III, ThermoFresh, AXIOM, Beverage Profit Calculator, Beverage Bar Creator, BrewLOGIC, BrewMETER, BrewWIZARD, BUNNlink, BUNNSERVE, BUNNsource, Coffee At Its Best, Coffee Spot, Cool Froth, Digital Brewer Control, Earth-1st, Earth 1st, Earth First, Intellisteam, Nothing Brews Like a BUNN, Pouring Profits, Pulse Wave, Quality Beverage Equipment Worldwide, Scale-Pro, Signature Series, Silver Series, Smart Heat, SmartWAVE, Tea At Its Best, The Horizontal Red Line, Titan, Ultra, are either trademarks or registered trademarks of Bunn-O-Matic Corporation.

INTRODUCTION

This equipment will brew coffee into an awaiting server or airpot. The brewer may have an auxillary hot water faucet. It is only for indoor use on a sturdy and level counter or shelf. Please install in an area where there are no water jet devices.

This brewer can be programmed to adjust different functions of the brewing process, such as brew temperature, brew volumes, bypass percentages, pulse brew, etc. Other features are Energy Savings mode, Freshness Timer and Clean Alert.

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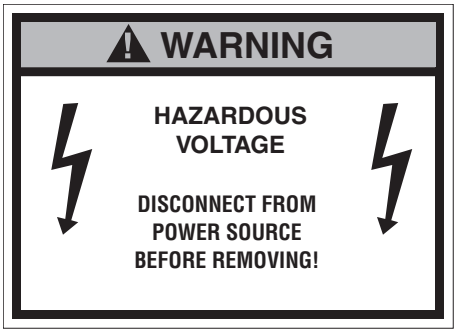
USER NOTICES

Carefully read and follow all notices in this manual and on the equipment. All labels on the equipment should be kept in good condition. Replace any unreadable or damaged labels.



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WARNING
DO NOT OVERLOAD CIRCUIT.
ALWAYS ELECTRICALLY GROUND THE CHASSIS OR ADAPTOR PLUG.
DO NOT DEFORM PLUG OR CORD.
FOLLOW NATIONAL AND LOCAL ELECTRICAL CODES.
KEEP COMBUSTIBLES AWAY.
FAILURE TO COMPLY RISKS EQUIPMENT DAMAGE, FIRE OR SHOCK HAZARD.
READ THE ENTIRE OPERATING MANUAL BEFORE USING THIS PRODUCT
00986.0000E 5/98 ©1994 Bunn-O-Matic Corporation

#00986.0000

WARNING
FUNNEL CONTENTS ARE HOT
DISCARD DECANTER IF:
• CRACKED
• SCRATCHED
• BOILED DRY
• HEATED WHEN EMPTY
USED ON HIGH FLAME OR EXPOSED ELECTRIC ELEMENTS
READ THE ENTIRE OPERATING MANUAL BEFORE USING THIS PRODUCT
FAILURE TO COMPLY RISKS INJURY
PN: 00658.0000F 6/98 © 1985 BUNN-O-MATIC CORPORATION

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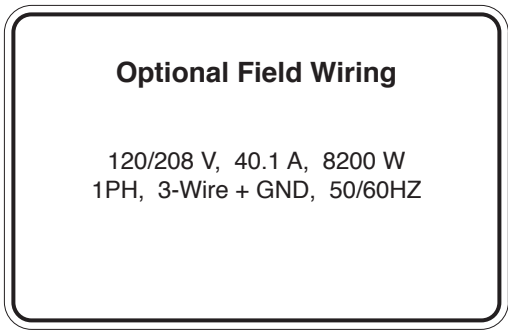

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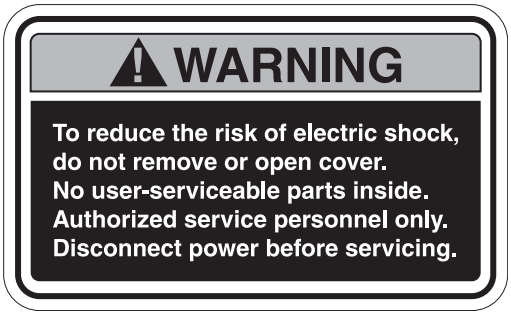
WARNING
To reduce the risk of electric shock, do not remove or open cover.
No user-serviceable parts inside.
Authorized service personnel only.
Disconnect power before servicing.

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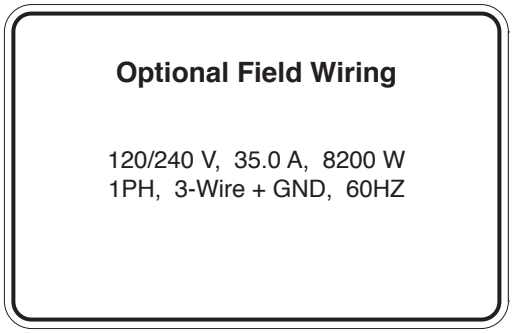

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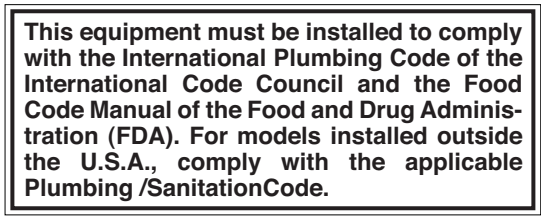
This equipment must be installed to comply with the International Plumbing Code of the International Code Council and the Food Code Manual of the Food and Drug Administration (FDA). For models installed outside the U.S.A., comply with the applicable Plumbing /SanitationCode.

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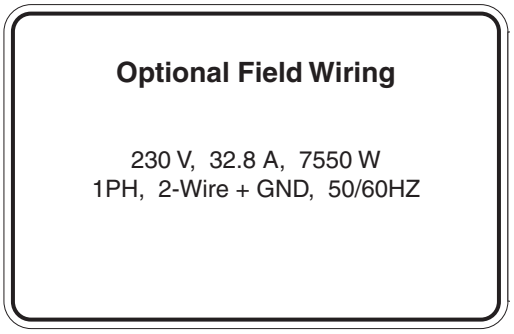

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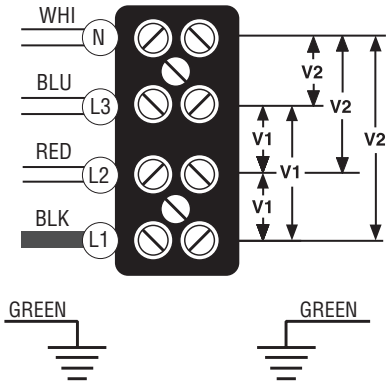
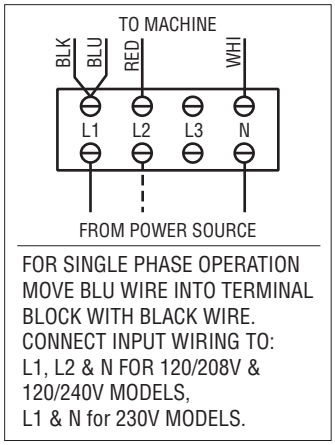
ELECTRICAL REQUIREMENTS

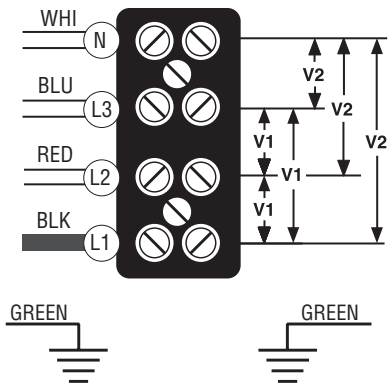
WARNING - If the power cord is ever damaged, it must be replaced by the manufacturer or its service agent with a special cord available from the manufacturer or its service agent in order to avoid a hazard.

Refer to Data Plate on the Brewer, and local/national electrical codes to determine circuit requirements.



120/208 and 120/240 volt ac three phase, 50/60 Hz models





400/230V volt ac three phase, 50/60 Hz models

Note: This electrical service consists of 4 current carrying conductors (Neutral, L1, L2 and L3) and a separate conductor for earth ground.

SYSTEM VOLTAGE	V1	V2
208	208	120
240	240	120

L1, L2, L3, are the 3 phases
V1 = Phase to phase voltage, between any 2 phases.
V2 = Phase to neutral voltage, L1 to neutral must be 120V.

Note: This electrical service consists of 4 current carrying conductors (Neutral, L1, L2 and L3) and a separate conductor for earth ground.

SYSTEM VOLTAGE	V1	V2
400	400	230
230		230

L1, L2, L3, are the 3 phases
V1 = Phase to phase voltage, between any 2 phases.
V2 = Phase to neutral voltage, L1 to neutral must be 230V.

ELECTRICAL HOOK-UP

CAUTION – Improper electrical installation will damage electronic components. **Damage caused by incorrect electrical connections is not covered by warranty.**

1. An electrician must provide electrical service as specified in conformance with all local, state and federal electrical codes.
2. Using a voltmeter, check the voltage and color coding of each conductor at the electrical source.
   NOTE - The brewer is shipped without a plug on the power cord. Qualified service personnel must select and install the proper UL listed grounding type attachment plug specified on the rear of the brewer.
3. Install the specified plug on the attached power cord.
4. Remove the front access panel to gain access to the terminal block.
5. Connect the brewer to the power source and verify the voltage at the terminal block before proceeding.
6. If plumbing is to be hooked up later be sure the brewer is disconnected from the power source. If plumbing has been hooked up, the brewer is ready for *Initial Set-Up*.

CE REQUIREMENTS

- This appliance must be installed in locations where it can be overseen by trained personnel.
- For proper operation, this appliance must be installed where the temperature is between 0°C to 35°C.
- Appliance shall not be tilted more than 10° for safe operation.
- An electrician must provide electrical service as specified in conformance with all local and national codes
- This appliance must not be cleaned by water jet
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given instructions concerning use of this appliance by a person responsible for its safety.
- If the power cord is ever damaged, it must be replaced by the manufacturer or authorized service personel with a special cord available from the manufacturer or its authorized service personel in order to avoid a hazard.

PLUMBING REQUIREMENTS

This brewer must be connected to a cold water system with operating pressure between 20 and 90 psi (138 and 620 kPa) with a minimum of 4.0 gpm from a 1⁄2" or larger supply line. A shut-off valve should be installed in the line before the brewer. Install a regulator in the line when pressure is greater than 90 psi (620 kPa) to reduce it to 50 psi (345 kPa). The water inlet fitting is 3⁄8" flare.

NOTE - Bunn-O-Matic recommends 3⁄8" copper tubing for all installations from the 1⁄2" water supply line. A tight coil of copper tubing in the water line will facilitate moving the brewer to clean the counter top. Bunn-O-Matic does not recommend the use of a saddle valve to install the brewer. The size and shape of the hole made in the supply line by this type of device may restrict water flow.

This equipment must be installed to comply with the International Plumbing Code of the International Code Council and the Food Code Manual of the Food and Drug Administration (FDA). For models installed outside the U.S.A., you must comply with the applicable Plumbing/Sanitation Code for your area.

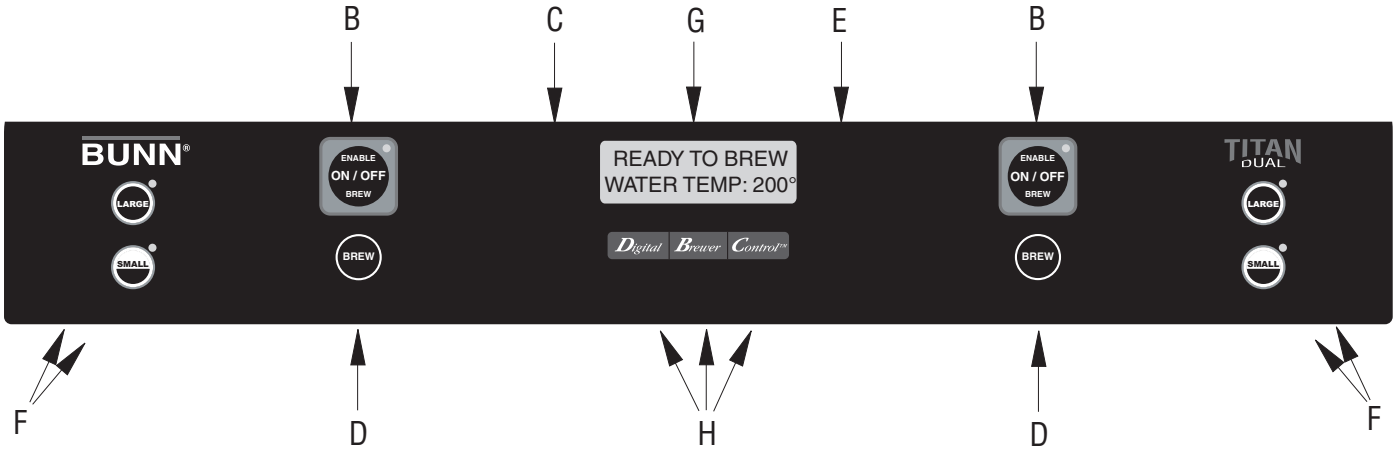
PLUMBING HOOK UP

1. Remove the shipping cap from the fitting on the rear of the brewer.
2. Attach the flare elbow fitting (supplied separately with the brewer) to the fitting.
3. Flush the water line and securely attach it to the flare elbow fitting.
4. Turn on the water supply.

TANK DRAIN

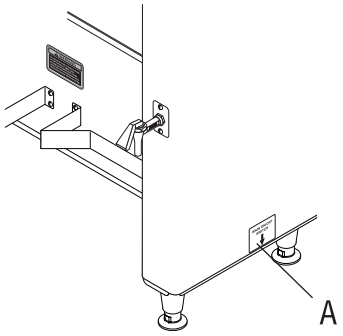
1. Remove screws that secure the front access panel. Remove the panel.
2. Unfasten the hose clamp at the end of the drain hose. Remove the plug.
3. Place the end of the drain hose in a drain or a container that has a minimum capacity of 16.0 gallons (60.5 liters).
4. Release the white clamp to drain water from the tank.
5. When tank is empty, close the white clamp, replace the plug, and tighten the clamp at the end of the drain hose.
6. Replace the front panel and tighten screws.

OPERATING CONTROLS



A. MAIN ON/OFF SWITCH

This switch, located under the brewer in front of the right rear leg, turns power on and off to all components in the brewer.



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B. ON/OFF SWITCH (ENABLE BREW)

Pressing the "ON/OFF" button will alternately turn the selected brewing side on and off. Pressing this button during the brew cycle will interrupt the brew cycle, stopping the flow of water. Pressing this button during programming of the brewer will exit the setup and return to the main screen.

C. PROGRAMMING (left)

This hidden button can be used to scroll backwards through the function list while in programming mode.

D. BREW

When the ON/OFF switch is ON and the main screen is visible, momentarily pressing and releasing this button will begin a brew cycle on the selected side.

E. PROGRAMMING (right)

Pressing and holding this button allows entry into the programming menus. Pressing and releasing the button steps through each function screen while in the programming mode.

F. BATCH SELECTOR SWITCHES

Pressing the button corresponding to the Half or Full batch selects the amount of product to be brewed on the selected side. Pressing a different button after a brew cycle has been initiated does not change the brew batch in progress. Light indicates the selected batch to brew. Also used in programming to adjust settings on both batch sizes.

G. FUNCTION SCREEN

This is the display which shows the various functions of the brewer and allows the programming to be accomplished.

H. FUNCTION SCREEN SWITCHES

These are hidden switches which are used to program the brewer when in the programming mode.

INITIAL SET-UP

1. Insert an empty funnel into the funnel rails of one of the brew stations.
2. Place an empty server under the funnel.
3. Connect the brewer to the power source. Make sure the corresponding ON/OFF switch is ON (LED will be lit).
4. Water will flow into the tank and stop when the tank is filled to its capacity. Display will show **PLEASE WAIT… TANK FILLING** until tank is filled with water.
5. Wait approximately twenty-five minutes for the water in the tank to heat to the proper temperature. Display will show **READY TO BREW…WATER TEMP: 205°** when tank is at operating temperature. Some water may drip from the funnels during this time; this is due to expansion and should not occur thereafter.
6. Place a small vessel beneath the faucet and open the faucet handle. Release it when you hear the tank refilling.
7. Water volumes and flow settings have been preset at the factory. Refer to adjustments for the Set Brew Volumes or Calibrate Flow section of this manual should the volume need to be increased or decreased.
8. The brewer is now ready for use in accordance with the instructions for Coffee Brewing.

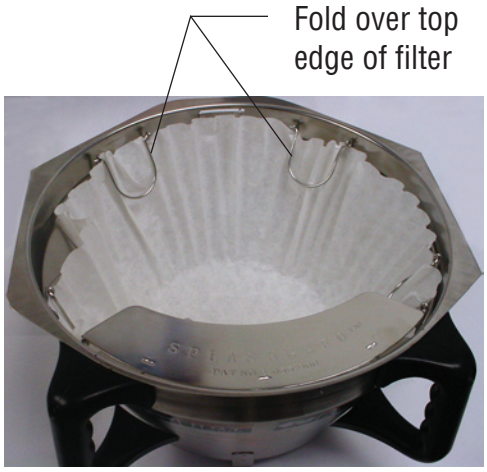
Brew water temperature is factory set at 205° F (96.1° C) Areas of high altitude will require lowering this temperature to prevent boiling. This chart should be used as a guide when readjusting the brew water temperature.

Altitude (Feet)	Boiling point of water ° F	° C	Recommended water temperature ° F	° C
-1000	213.8	101.0	200	93.3
-500	212.9	100.5	200	93.3
0	212.0	100.0	200	93.3
500	211.1	99.5	200	93.3
1000	210.2	99.0	200	93.3
1500	209.3	98.5	200	93.3
2000	208.4	98.0	200	93.3
2500	207.4	97.4	200	93.3
3000	206.5	96.9	199	92.8
3500	205.6	96.4	198	92.2
4000	204.7	95.9	197	91.7
4500	203.8	95.4	196	91.1
5000	202.9	94.9	195	90.6
5500	201.9	94.4	195	90.6
6000	201.0	93.9	194	90.0
6500	200.1	93.4	193	89.4
7000	199.2	92.9	192	88.9
7500	198.3	92.4	191	88.3
8000	197.4	91.9	190	87.8
8500	196.5	91.4	189	87.2
9000	195.5	90.8	188	86.7
9500	194.6	90.3	187	86.1
10000	193.7	89.8	186	85.6

VIEWING ASSET & SERIAL NUMBER

1. To view the asset number of the machine, press and hold the left hidden button until the display reads: **ANXXXXXX…ASSET NUMBER**. Release the left hidden button.
2. After a 5 second delay, the display will read: **DTTNXXXXXX**. This is the serial number of the machine.

COFFEE BREWING



1. Begin each brew cycle with a clean empty brew funnel.
2. Insert a BUNN filter into the funnel.

NOTE: The funnels are equipped with 4 wire loops that can be folded over top edge of filter if desired, to prevent filter from folding in during the brew cycle.

3. Pour the fresh coffee into the filter and level the bed of grounds by gently shaking.
4. Slide the funnel into the funnel rails of the selected side until it stops.
5. Place an empty server under the funnel.
6. The ON/OFF (Enable Brew) switch for the selected side must be ON. Select the desired batch size.
7. Momentarily press and release the BREW button. There may be certain situations in which the brew cycle will not begin when BREW is pressed:
   a. **SWITCH NOT ON** - ON/OFF must be ON.
   b. **BREW TEMPERATURE TOO LOW** - wait until heated or cancel **BREW LOCKOUT** option (Page 13).
   c. **CHECK FUNNEL** - remove funnel, empty previously brewed grounds and replace with fresh.
   d. **DISABLED** - select different brew button or batch size.
8. If none of the above messages are displayed, the display will read **NOW BREWING** and show the time remaining in the brew cycle.
9. Following the brew will be a countdown of drip time **DRIPPING** which shows the time remaining until the coffee no longer drips from the funnel tip.
10. Carefully remove the brew funnel and discard the grounds and filter only after visible dripping stops.

CLEANING

1. The use of a damp cloth rinsed in any mild, nonabrasive, liquid detergent is recommended for cleaning all surfaces on Bunn-O-Matic equipment. Do **NOT** clean this equipment with a water jet device.

2. Check and clean each sprayhead. The sprayhead holes must always remain open.

   NOTE: Any buildup on the sprayhead may restrict water flow, and impact your coffee brewing. For consistently great coffee, clean sprayheads weekly. Upon visual inspection it may appear that light passes through all holes in the sprayhead plate, but a thin film of residue can pass light and still impede water flow.

3. Remove sprayhead from brewer. Disassemble by removing the seal.

4. Use the pointed end of sprayhead cleaning tool to remove any mineral deposits from the sprayhead holes.

5. Insert the long end of sprayhead cleaning tool into the sprayhead fitting, and rotate several times to remove any mineral deposits from the fitting.

6. Insert the short end of sprayhead cleaning tool into the bypass fittings, and rotate several times to remove any mineral deposits from the fitting.

7. Reassemble sprayhead and reattach. Sprayhead only needs to be hand tightened.

   See page 30 of instruction manual for calibration routine to verify sprayhead flow rate matches programmed flow rate. Machine may need to be re-calibrated due to lime build up. If machine is cleaned and build up removed, machine must be re-calibrated to achieve desired volumes.

GLOSSARY

BREW LOCKOUT: The inability to initiate a brew if the water temperature is less than the ready temperature programmed into the brewer.
BREW METER: The setting of a pulse brew routine by entering in the total desired water delivery time. The brewer will then calculate and perform a pulse brew routine using a predetermined formula.
BYPASS: The process of diverting a portion of the brew water to the outside of the paper filter so that it does not pass through the coffee grounds. This process is sometimes used to optimize the flavor of the finished brew.
DRIP TIME: The length of time from when the water spray over the grounds ends to the time when no water or product drips from the funnel tip.
ENERGY SAVINGS MODE: If enabled, the heaters will either shut down or reduce the tank holding temperature to 140°F (60°C) after the set idle time.
FACTORY DEFAULTS: The factory preset brew settings that were installed into the brewer's memory.
FIRST ON-TIME: During a pulse brew, this is the time set for the initial flow of water over the grounds.
FRESHNESS TIMER: If enabled, the brewer will display an alert if a new coffee batch has not been brewed before the set time has expired.
FUNNEL LOCK: A solenoid controlled plunger locking mechanism which engages when a brew cycle has begun preventing the removal of the funnel until end of Drip Time.
FUNNEL SENSING COIL: A sensor at the front of the brewer that reads what name and batch size of coffee was ground into the funnel and allows for the brewer to automatically set itself to what is read from the funnel handle. Also used to read in recipe and ad card information.
IDLE TIME (ENERGY SAVINGS MODE): If ENERGY SAVINGS Mode is enabled, the length of time the brewer is inactive before the heaters turn off or hold at 140°F (60°C).
LAST ON-TIME: During a pulse brew, this is the time set for the second on-time and each alternative on-time for the remainder of the brew.
MAIN SCREEN: The term used to describe the screen that is displayed when the brewer is not in use. This screen is also displayed after exiting the programming mode.
MANUAL PULSE BREW SETUP: The setting of a pulse brew routine by manually entering in the 1st on time, off time and last on time.
SET TEMP: The temperature at which the tank will heat to and hold.
OFF-TIME: During a pulse brew or preinfusion, this is the time set for the length of time that the water is not spraying over the grounds.
PREINFUSION: The process of beginning a brewing cycle with an initial spray of water onto the grounds followed by a pause in the spray. After the programmed pause, the spray continues without interruption until the end of the brewing cycle.
PULSE BREW: The process that allows the brew water to start, and then stop, repeatedly over the grounds in order to derive the best flavor from the coffee. Pulse brew is also used in some instances to prevent a funnel overflow.
CLEAN MODE: If enabled, the brewer will display a message after a set amount of time indicating the machine needs cleaning and sanitizing.
WARNING TIME (FRESHNESS TIMER): If the Freshness Timer is enabled, the length of time from when the brew was completed until a "Freshness Alert" message will display, communicating that a fresh batch of product needs to be brewed.

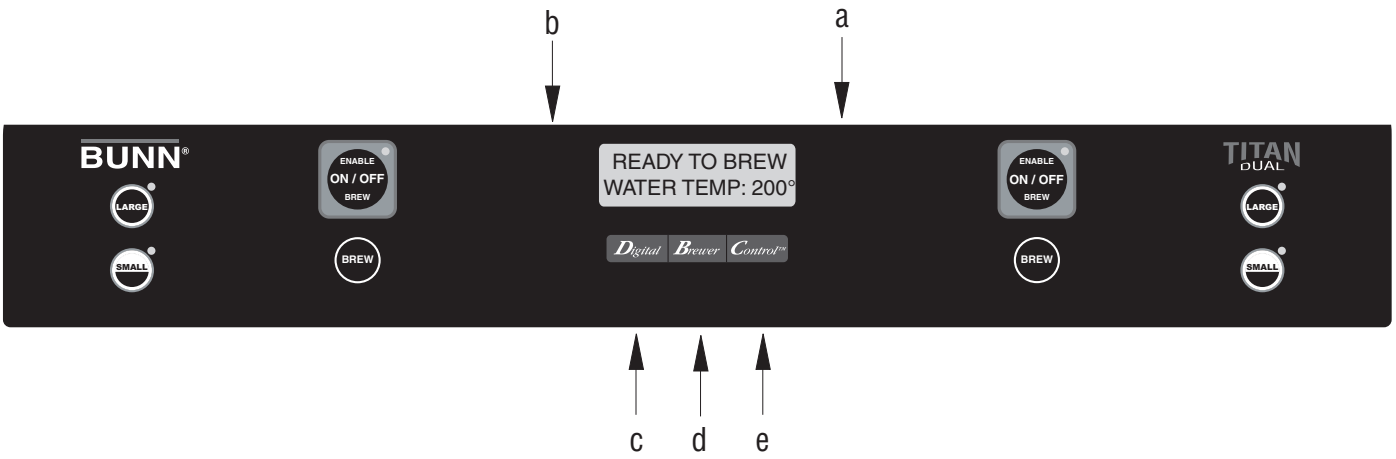
PROGRAMMING

Using the menu-driven display on the front of the brewer, the operator has the ability to alter or modify various brewing parameters such as brew temperatures, brew volumes, bypass percentages, pulse brew, etc. This allows for the precise brewing of various flavors of coffee.

Programming of the brewer is achieved by entering a certain function. Then, by the use of the hidden programming and function buttons, the operator can customize the brewing process to their specifications.

PROGRAMMING SWITCHES

To access the programming mode, and to scroll through the different function screens, hidden programming buttons are used. There are five of these buttons that will be used for the setup of the brewer.



a) Right Programming (hidden) button (just to the right of the display): This is used to access the programming mode, and is also used to scroll forward through the function list.

b) Left Programming (hidden) button (just to the left of the display): This is used to scroll backwards through the function list.

c) Digital: This is used to select options that appear on the display during programming.

d) Brewer: This is used to select options that appear on the display during programming.

e) Control: This is used to select options that appear on the display during programming.

PROGRAMMING SECTION

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PROGRAMMING THE BREWER

The programming of the brewer is divided into two levels. There is one function in Level 1. All other functions are accessed in Level 2.

The following function screens are in order of appearance. Each screen will have instructions on how to access and the procedures for programming the various functions of the brewer.

IMPORTANT PROGRAMMING NOTES
- READ CAREFULLY -

To exit the programming mode at any time, press and release either ON/OFF button located on the front switch panel. The display will return to the **MAIN SCREEN**.

If none of the five programming buttons are pressed within one minute during the setup of the brewer, the programming of the function screen that is being set will be exited and the display will return to the **MAIN SCREEN.**

Always remember to place a container and funnel under the sprayhead when operating the brewer during the set-up of **CALIBRATE FLOW,** and testing the brew and bypass valves in **SERVICE TOOLS/TEST OUTPUTS.**

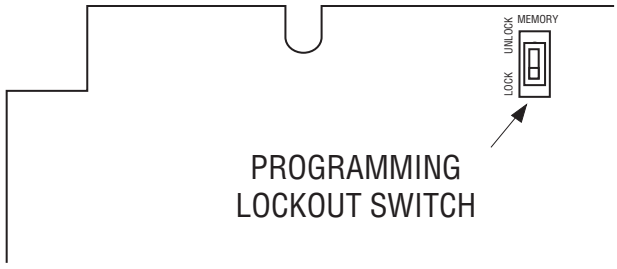
MAIN SCREEN

P2426

This screen will be shown when the brewer is ready for use. The screen displays the water temperature in the tank. When the water in the tank reaches the correct set temperature, the display will change from **HEATING** to **READY TO BREW.**

PROGRAMMING LOCKOUT SWITCH (located on the main circuit board.

This switch can be set to prevent access to the programming settings of the brewer. Once all the correct brew settings are programmed, the operator can set the switch to the "ON" position to prohibit anyone from changing the settings. With the switch in the "ON" position, the programming menus can still be accessed to view the current settings. However, no changes will be saved.

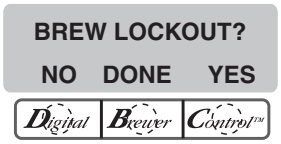


P3048

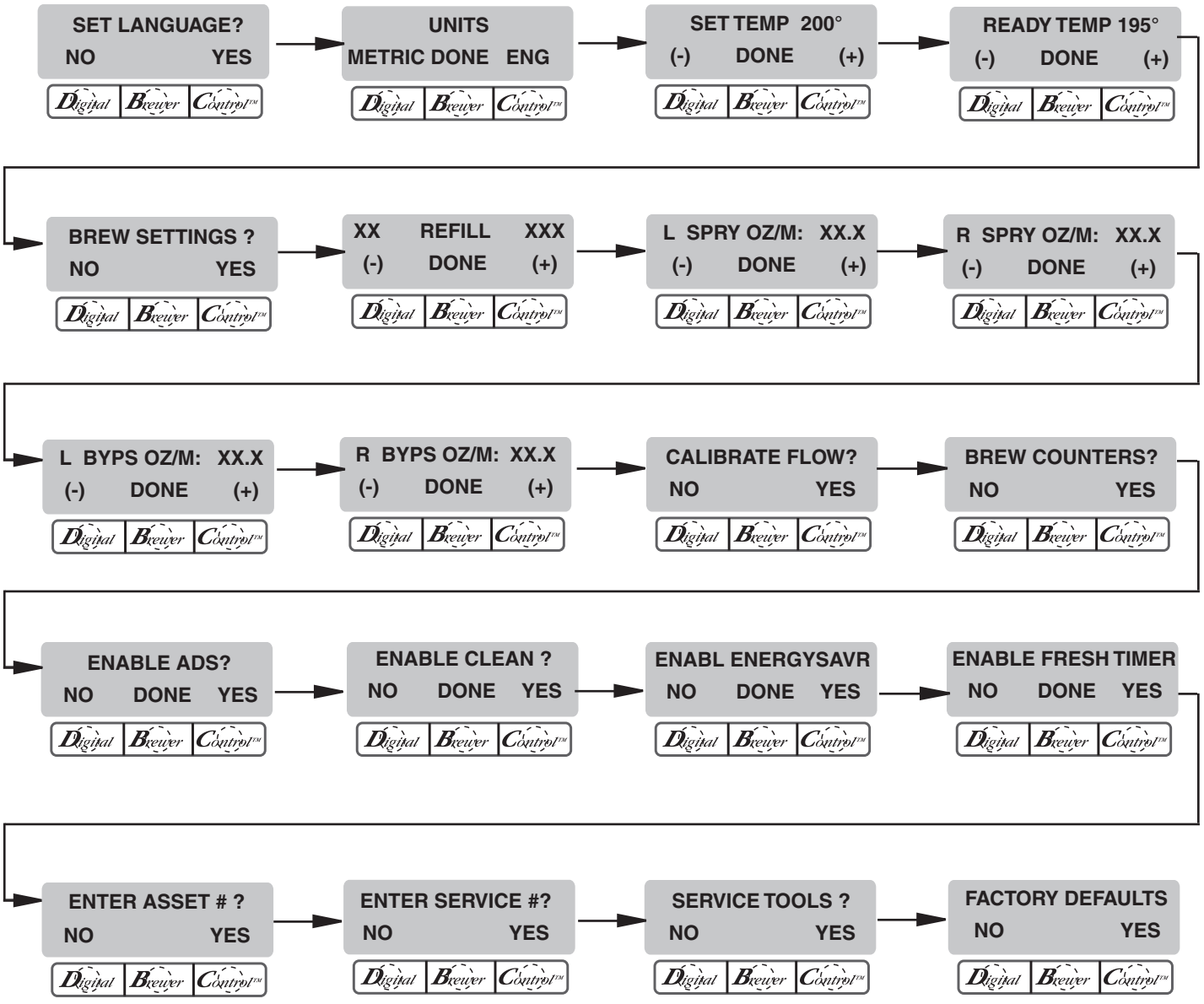
PROGRAMMING THE BREWER (cont.)

PROGRAMMING FUNCTIONS - FLOW CHART

PROGRAMMING FUNCTIONS - LEVEL I



PROGRAMMING FUNCTIONS - LEVEL 2



PROGRAMMING THE BREWER (cont.)

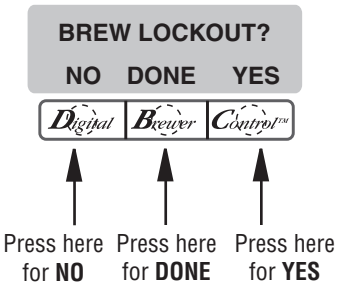
PROGRAMMING FUNCTIONS - LEVEL I

BREW LOCKOUT

This function allows the operator to prevent or allow brewing if the water temperature is less than the set **READY** temperature.

Procedure for setting Brew Lockout:

1. To access this function screen press and hold the right hidden button. Release when the display reads:



2. The **YES** or **NO** should be flashing. Select **YES** to prevent brewing if the water temperature is below the set **READY** temperature. Select **NO** to permit brewing at any water temperature.

3. When finished, press and release **DONE**. This will exit this function screen and return to the **MAIN SCREEN** on the display.

PROGRAMMING THE BREWER (cont.)

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

The functions in the second level of programming allow the operator to adjust brew settings and other feature options.

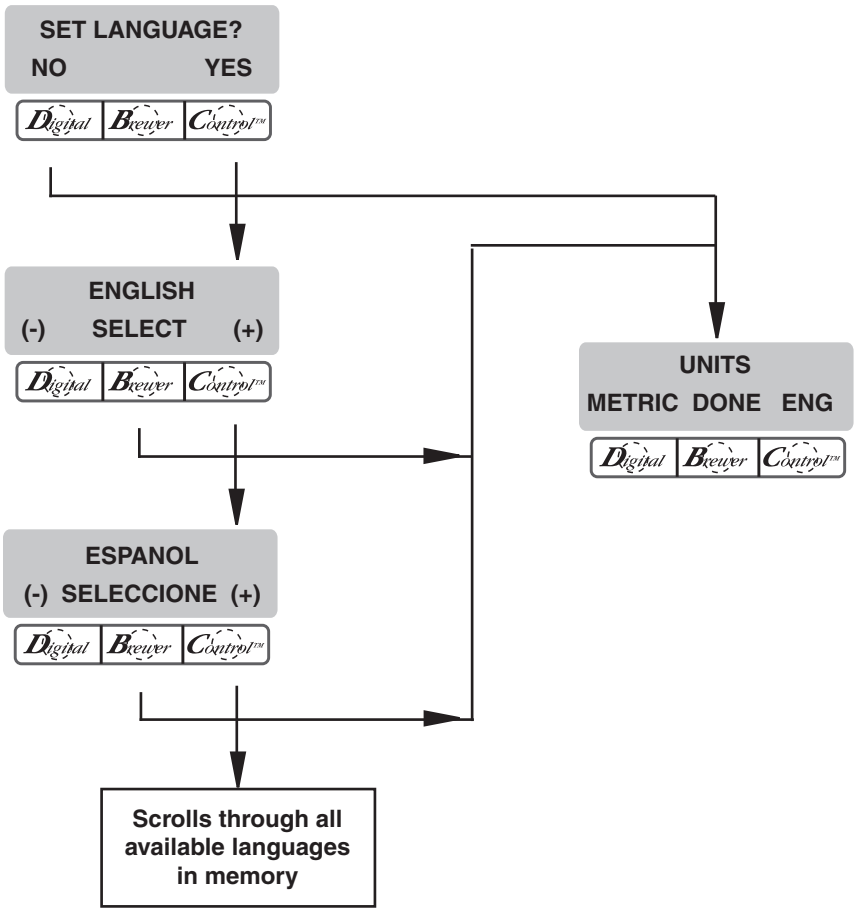
To access the level 2 function screens press and hold the right hidden button for approximately 5 seconds. Release when the display reads:

SET LANGUAGE

This function allows the operator to select the language used for the display.

Procedure for setting Language:

1. Press and hold the right hidden button until the display reads **SET LANGUAGE?** and release.
2. Press **YES** to proceed. The display should now read **ENGLISH**. Using **(-)** and **(+)**, scroll through the available languages until the desired language is shown on the display.
3. When finished, press **SELECT.** If the language selected is different from the current settings,the display will read **CHANGE LANGUAGE? ARE YOU SURE?** and then will change to **CHANGE LANGUAGE?** To convert the display to the new language, press **YES**. To retain the current language, press **NO.**
4. The display should now read **UNITS**. To exit programming and return to the **MAIN SCREEN**, press and release either ON/OFF button.



PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

UNITS

This function allows the operator to select if numeric settings are displayed in English or Metric units.

Procedure for setting the Units:

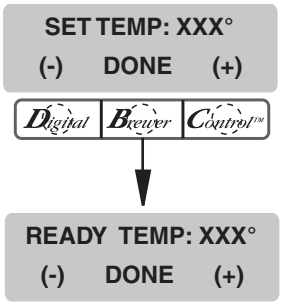
1. Press and hold the right hidden button until the display reads **SET LANGUAGE?** Press and release the right hidden button until the display reads **UNITS**. The **METRIC** or **ENG** should be flashing.
2. Select **METRIC** to have settings displayed in Metric units. Select **ENG** to have setting displayed in English units.

NOTE: Changing the **UNIT** settings will restore ALL settings to Factory Default.

3. When done, press **DONE** to advance to the next programming screen. To exit programming and return to the Main Screen, press and release either ON/OFF button.

NOTE: This manual is written based on Factory Default Settings (English Units). If brewer is set for Metric Units, displays will be different (ex: Brew oz will become Brew ml).

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)



SET TEMP

This function allows the operator to adjust the brew water temperature in the tank. This also sets the hot water faucet dispense temperature.

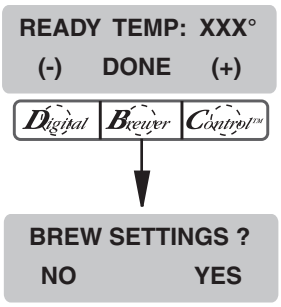
Procedure for setting the Set Temp
Range: 185° to 205° F (85° - 96° C)

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press and release the right hidden button until the display reads **SET TEMP: XXX°**.
2. Using **(-)** and **(+)**, adjust the brew and faucet temperature.
3. When finished, press **DONE** to save the new setting and to advance to the next function screen, **READY TEMP: XXX°**. Press and release either ON/OFF button to exit programming and return to the **MAIN SCREEN**.

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

READY TEMP

This function allows the operator to set the minimum temperature allowable to start a brew cycle. The range can be from 2° to 20° F within the set temperature. The water must be at the **READY** temperature or higher for the display to indicate **READY TO BREW**. If brew lockout is enabled, the brewing process will not start below this **READY** temperature.



Procedure to set ready temperature
Range: 2° to 20° F (2° to 10° C)

1. Press and hold the right hidden button until display reads **SET LANGUAGE.** Press and release the right hidden button until display reads **READY TEMP: XXX°**.
2. Using **(-)** and **(+)**, adjust the ready temperature.
3. When finished, press **DONE** to save the new setting and to advance to the next function screen, **BREW SETTINGS ?**. Press and release either ON/OFF button to exit programming and return to the **MAIN SCREEN**.

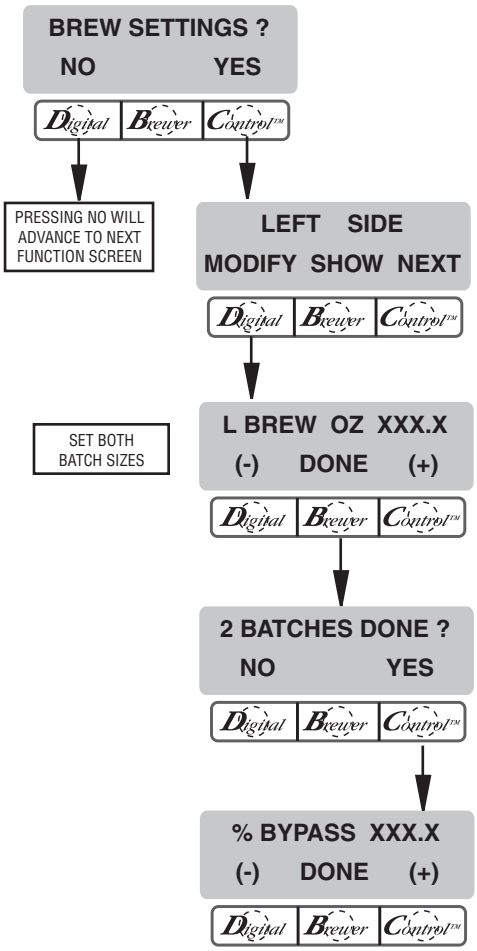
PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

BREW SETTINGS

This function allows the operator to modify the **BREW VOLUMES, BYPASS PERCENTAGES** and **BREW METER** for each batch size of both brew stations.

Procedure to set or modify brew volumes.
Range: 10 to 500 oz.

1. Press and hold the right hidden button until display reads **SET LANGUAGE.** Press the right hidden button until display reads **BREW SETTINGS ?**.
2. Press **YES** to proceed. The display should now read **LEFT SIDE**, along with **MODIFY, SHOW** and **NEXT.**
3. Press and release **MODIFY.** The display should read **L BREW OZ XXX.X:** and a batch light will be blinking.
4. Using **(-)** and **(+)**, set the amount of brew water, in ounces, to be dispensed **over** the grounds for that particular batch size.
5. When finished, press the other batch size and repeat step 4.
6. When finished setting both batch sizes, press **DONE**. The display should read **2 BATCH SIZES DONE?**
7. If both batch sizes are not correct, press **NO** to return to the **L BREW OZ** setup screen and repeat steps 4, 5 and 6.
8. If both batch sizes are correct, press **YES**. This will advance to the **% BYPASS** function. Another alternative is to press and release either ON/OFF button to exit the **BREW OZ** setup and return to the **MAIN SCREEN.**



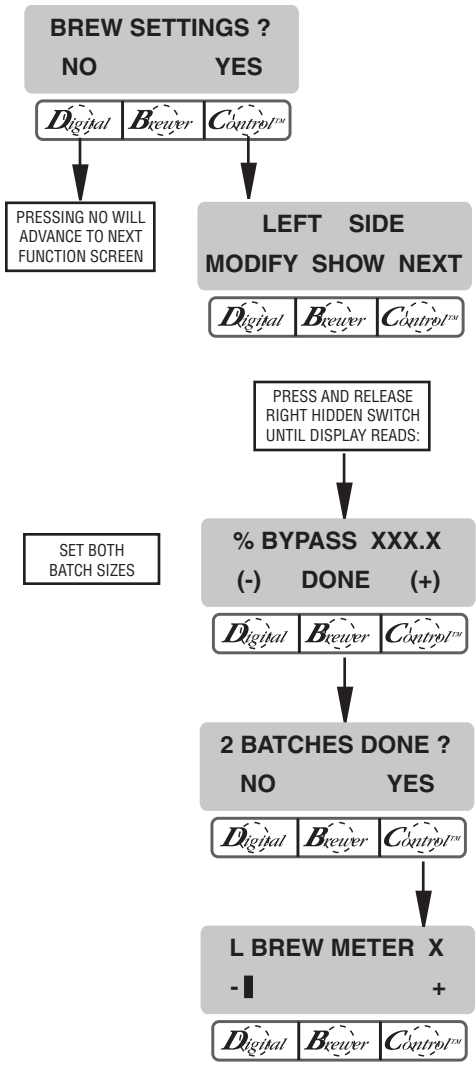
PROGRAMMING THE BREWER (cont.)

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

BREW SETTINGS (cont.)

Procedure to set or modify % Bypass settings.
Range: 0 to 90% for both batch sizes

1. Press and hold the right hidden button until display reads **SET LANGUAGE.** Press the right hidden button until display reads **BREW SETTINGS ?**.
2. Press **YES** to proceed. The display should now read **LEFT SIDE**, along with **MODIFY, SHOW** and **NEXT.**
3. Press and release the right hidden button until display reads **% BYPASS XXX.X.** A batch light will be blinking.
4. Using **(-)** and **(+)**, set the amount of bypass water (percentage) to be dispensed around the gounds for that particular batch size.
5. When finished, press the other batch size and repeat step 4.
6. When finished setting both batch sizes, press **DONE**. The display should read **2 BATCHES DONE?**
7. If both batch sizes are not correct, press **NO** to return to the **% BYPASS:** setup screen and repeat steps 4, 5 and 6.
8. If both batch sizes are correct, press **YES**. This will advance to **L BREW METER**. To exit to the **MAIN SCREEN**, press and release either ON/OFF button.



PROGRAMMING THE BREWER (cont.)

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

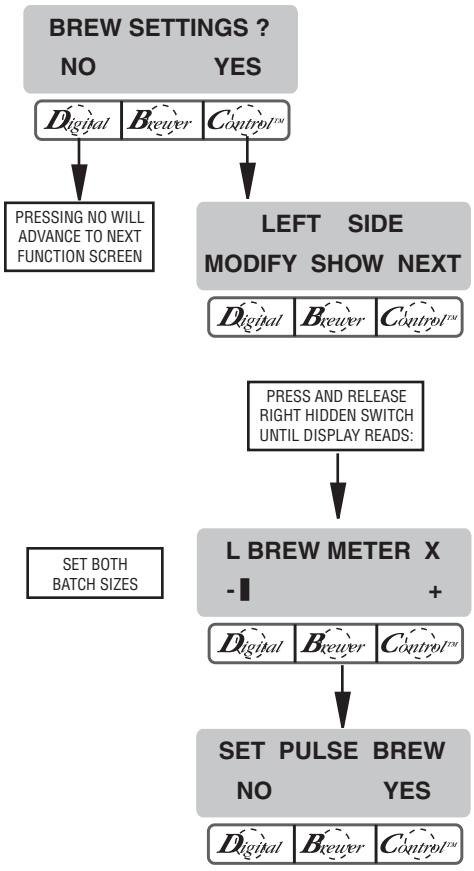
BREW SETTINGS (cont.)

Procedure to set or modify BREW METER.
Range: 1 to 14 for both batch sizes

NOTE: Using BREW METER will overwrite PULSE BREW settings.

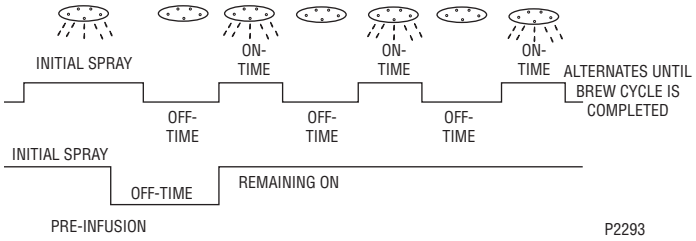
This function allows the operator to program the brewer to a non-pulsed brew cycle (setting 1), or to "pulse" the sprayhead flow on and off during a brew cycle (start and stop the flow of water out of the sprayhead). Settings 2 thru 14 will produce pulsed brew cycles to increase the brew strenght with 14 being the highest.

1. Press and hold the right hidden button until display reads **SET LANGUAGE.** Press the right hidden button until display reads **BREW SETTINGS ?**.
2. Press **YES** to proceed. The display should now read **LEFT SIDE**, along with **MODIFY, SHOW** and **NEXT.**
3. Press and release the right hidden button until display reads **L BREW METER.** A batch light will be blinking.
4. Using **(-)** and **(+)**, set the brew meter time for that particular batch size.
5. When finished, press the other batch size and repeat step 4.
6. When finished setting both batch sizes, press center program button (Brewer). The display should read **2 BATCHES DONE?**
7. If both batch sizes are not correct, press **NO** to return to the **L BREW METER:** setup screen and repeat steps 4, 5 and 6.
8. If both batch sizes are correct, press **YES**. This will advance to **SET PULSE BREW**. To exit to the **MAIN SCREEN**, press and release either ON/OFF button.



SET PULSE BREW/PREINFUSION

This function allows the operator to program the brewer to "pulse" the sprayhead flow on and off during a brew cycle (start and stop the flow of water out of the sprayhead). This feature allows the ability to "fine-tune" the brewer for specific flavor profiles. Pulse brewing can be set up for any and all batch sizes.



a) 1st ON TIME – This time is the duration from when the brew button is pressed to when the desired water level in the funnel is reached. (Soaking the grounds)
b) OFF-TIME – This time is the duration from when the water in the funnel reached the desired **ON TIME** to when it drains out of the funnel to a desired lower level.
c) LAST ON-TIME – This time is the duration from when the water in the funnel drains down to the lower level to when it fills the funnel to a desired higher level. (Soaking the grounds)

Setting Pulse Brew
Range: 1ST ON TIME – OFF to 4 minutes
OFF TIME – OFF to 4 minutes
LAST ON TIME – Pre-Infusion to 4 minutes

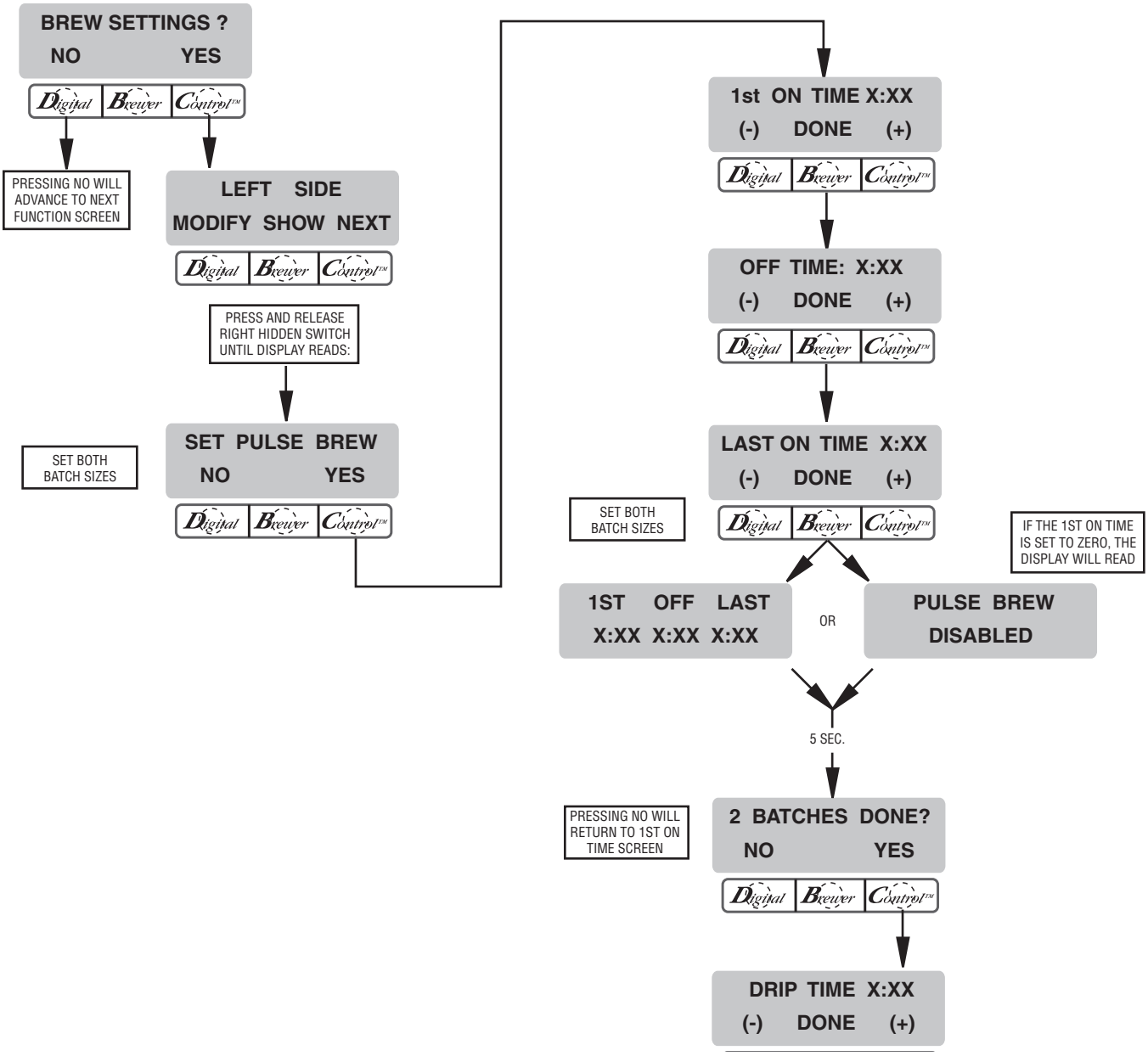
Setting Pulse Brew

1. Press and hold the right hidden button until display reads **SET LANGUAGE.** Press the right hidden button until display reads **BREW SETTINGS ?**, along with **NO** and **YES**.
2. Press **YES** to proceed. The display should now read **LEFT SIDE**, along with **MODIFY, SHOW** and **NEXT.**
3. Press and release the right hidden button until display reads **SET PULSE BREW ?,** along with **NO** and **YES**.
3. Press and release **YES**. The display should now read **1ST ON TIME X:XX.** and a batch light will be blinking.
4. Using **(-)** and **(+)**, set the total brew time desired including spray times and off times.
5. When finished, press the other batch size and repeat step 4.
6. When finished setting both batch sizes, press **DONE**. The display will show the pulse settings to accommodate the brew time entered. Press each batch size to display the settings for that batch. If the **1ST ON TIME** is set to **OFF**, the display will read **PULSE BREW DISABLED**. After a 5 second delay, the display will read **2 BATCHES DONE?.**
7. If both batch sizes are not correct, press **NO** to return to the **1st ON TIME:** setup screen and repeat steps 4, 5 and 6.
8. If both batch sizes are correct, press **YES**. This will advance to **DRIP TIME**. To exit to the **MAIN SCREEN**, press and release either ON/OFF button.

PROGRAMMING THE BREWER (cont.)

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

BREW SETTINGS (cont.)



DRIP TIME

This function allows the operator to adjust the **DRIP TIME** (time from end of sprayhead flow to when liquid stops dripping from the funnel). When the brew cycle is complete, the display will show **DRIPPING** and will countdown the time until the funnel empties.

Setting DRIP TIME:
Range: OFF to 5 minutes for both batch sizes.

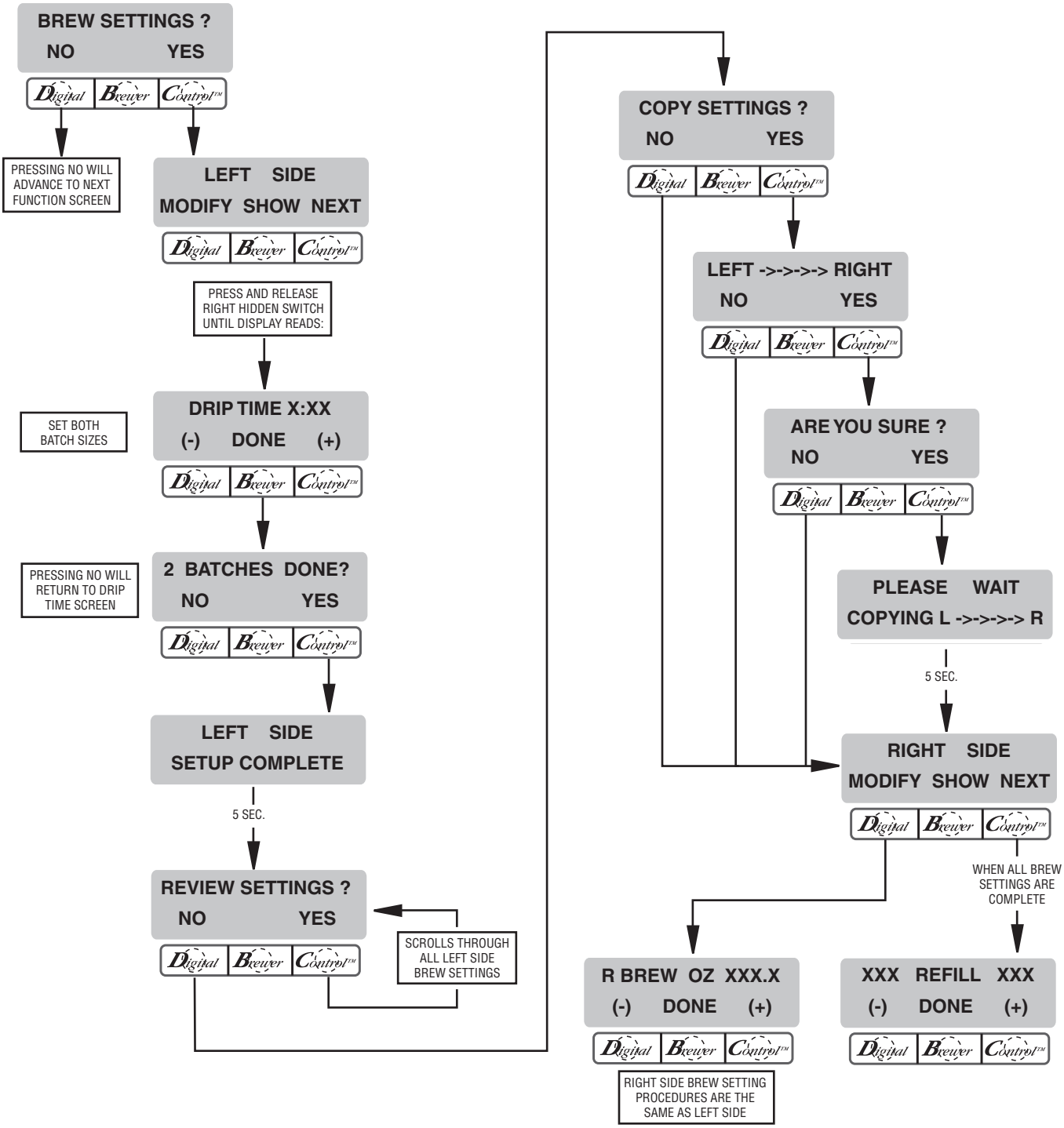
NOTE: If the brewer is already in the **DRIP TIME** screen, skip steps 1 through 9 and proceed directly to step 10.

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until display reads **BREW SETTINGS ?**.
2. Press **YES** to proceed. The display should now read **LEFT SIDE**, along with **MODIFY SHOW NEXT**.
3. Press and release the right hidden button until display reads **DRIP TIME: X:XX.** A batch light will be blinking.
4. Using the **(-)** and **(+)**, set the amount of time from when the brew solenoid shuts off to when drip-out occurs for that batch size.
5. When finished, press the other batch size and repeat step 4.
6. When finished, press **DONE**. The display should read **2 BATCHES DONE?**
7. If both batch sizes are not correct, press and release **NO** to return to the **DRIP TIME** setup screen and repeat steps 4, 5 and 6.
8. If both batch sizes are correct, press **YES**. The display should read **LEFT SIDE SETUP COMPLETE.** After a 5 second delay, the display will advance to **REVIEW SETTINGS ?.**
9. Press **YES** to scroll through all left brew settings. If all brew settings are correct press **NO.** The display should read **COPY SETTINGS ?**.
10. If **NO** is pressed, display will advance to **RIGHT SIDE,** along with **MODIFY SHOW NEXT**; proceed to step 13. If **YES** is pressed, display should read **LEFT->->->-> RIGHT**
11. If **NO** is pressed, display will advance to **RIGHT SIDE,** along with **MODIFY SHOW NEXT;** proceed to step 13. If **YES** is pressed, display should read **ARE YOU SURE ?.**
12. If **NO** is pressed, display will advance to **RIGHT SIDE,** along with **MODIFY SHOW NEXT**. If **YES** is pressed, display should read **PLEASE WAIT**, along with **COPYING L ->->->-> R.** After a short delay display will read **RIGHT SIDE,** along with **MODIFY SHOW NEXT**.
13. If left settings were copied to the right side press **NEXT** to advance display to **XXX REFILL XXX**. If left brew settings were not copied to the right side, press **MODIFY** and repeat the BREW SETTING procedure used to set the left side. To exit to the **MAIN SCREEN**, press and release either ON/OFF button.

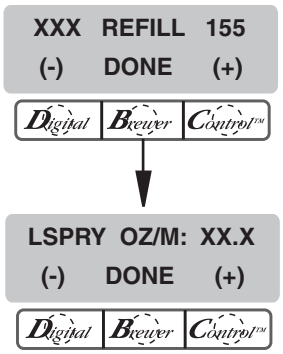
PROGRAMMING THE BREWER (cont.)

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

BREW SETTINGS (cont.)



REFILL
Range: 0 to 155



This function allows the operator to adjust the sensitivity of the refill circuit. This is mainly a troubleshooting feature. Water in different geographical locations can have different conductivities. By adjusting the sensitivity of the refill circuit, this will allow the brewer to operate under various water conditions.

Procedure to set the sensitivity threshold of the refill circuit:

NOTE: Make sure the water in the tank is touching the refill probe.

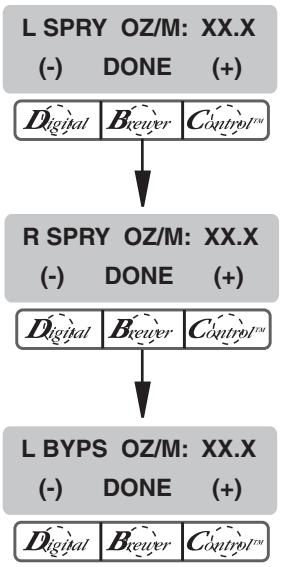
1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **REFILL** and shows a number on both sides of the word.
2. To adjust the threshold setting, press **(-)** to decrease or **(+)** to increase the setting.

NOTE: Always make sure that the number on the right is larger than the number on the left when water is in contact with the refill probe in the tank.

3. When finished, press and release **DONE**. This saves the new setting and advances to the next function screen **L SPRAY OZ/M**. To exit programming and return to the **MAIN SCREEN**, press and release either ON/OFF pad.

L/R SPRAY OZ/M

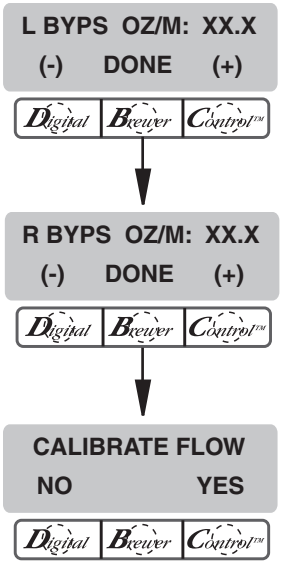
This function allows the operator to view or to enter the actual flow rate coming out of the sprayhead for each side of the brewer. This is **NOT** used to control the actual flow rate, but to tell the internal controller how fast the water is flowing.



Procedure to adjust the sprayhead flow rate setting:

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **L SPRY OZ/M**. The number represents what the brewer thinks is the flow rate out of the left sprayhead.
2. If the actual flow rate of the sprayhead is known but is different than the number on the display, use the **(-)** and **(+)** to enter the correct flow rate.
3. Press and release **DONE**. The display will now read **R SPRY OZ/M**. The number represents what the brewer thinks is the flow rate out of the right sprayhead.
4. Repeat step #2 for the right sprayhead.
5. When finished, press and release **DONE** to advance to the next function screen, **L BYPS OZ/M: XX.X**. To exit programming and return to the **MAIN SCREEN**, press and release either ON/OFF pad.

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)



L/R BYPASS OZ/M

This function allows the operator to view or to enter the actual flow rate coming out of the bypass nozzle for each side of the brewer. This is **NOT** used to control the actual flow rate, but to tell the internal controller how fast the water is flowing.

Procedure to adjust the bypass flow rate setting:

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **L BYPS OZ/M**. The number represents what the brewer thinks is the flow rate out of the left bypass nozzle.
2. If the actual flow rate of the bypass is known but is different than the number on the display, use the **(-)** and **(+)** to enter the correct flow rate.
3. Press and release **DONE**. The display will now read **R BYPS OZ/M**. The number represents what the brewer thinks is the flow rate out of the right bypass nozzle.
4. Repeat step #2 for the right bypass.
5. When finished, press and release **DONE** to advance to the next function screen, **CALIBRATE FLOW**. To exit programming and return to the **MAIN SCREEN**, press and release either ON/OFF pad.

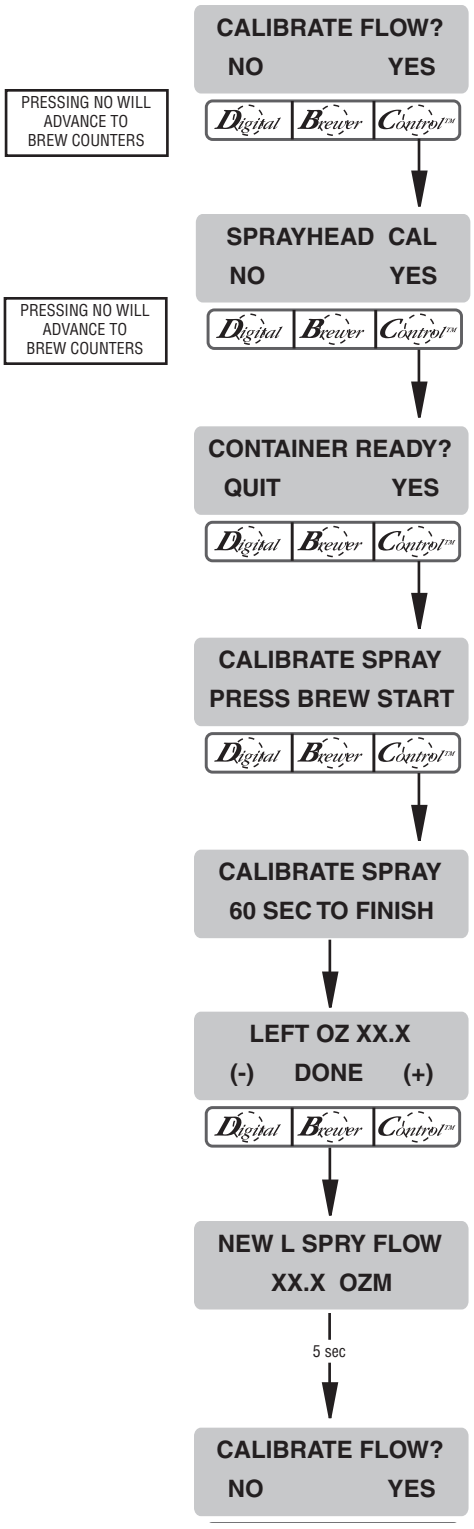
PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

CALIBRATE FLOW

This function allows the operator to enter the actual flow rate of the sprayhead and the bypass for each side of the brewer by dispensing both separately for one minute. The volumes are then entered into the brewer.

Procedure to calibrate the sprayhead flow rate:

1. Place a container, accurately graduated and with a minimum capacity of 60 ounces, beneath the funnel.
2. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **CALIBRATE FLOW**.
3. Press and release **YES** to advance to the **SPRAY HEAD CAL** function screen. (Pressing **NO** in the **CALIBRATE FLOW** screen will advance to the next function screen, **BREW COUNTERS**).
4. Press and release the **YES** pad. The display should read **CONTAINER READY?** If the container is under the funnel, press **YES**.
5. The display should read **CALIBRATE SPRAY.** Press and release any **BREW** button on the side to be calibrated to begin the sprayhead flow for calibration. The display should read **CALIBRATE SPRAY…60 SEC TO FINISH.** The 60-second timer on the display will count down to zero. When the counter reaches zero, the display will change to **LEFT or RIGHT OZ**, along with a number.
6. Measure the amount of water in the container and use the **(-)** and **(+)** pads to adjust the amount of the display to match the amount in the container. Then press **DONE**.
7. The display should now read **NEW L or NEW R SPRY FLOW**, along with the correct flow rate of the sprayhead. After about 5 seconds, the display will return to the **CALIBRATE FLOW** screen.
8. Repeat steps 1-7 to calibrate the other side.
9. To exit the **CALIBRATE FLOW** function and advance to the next function screen, press and release **NO.** To exit programming, press and release either ON/OFF button to return to the **MAIN SCREEN**.

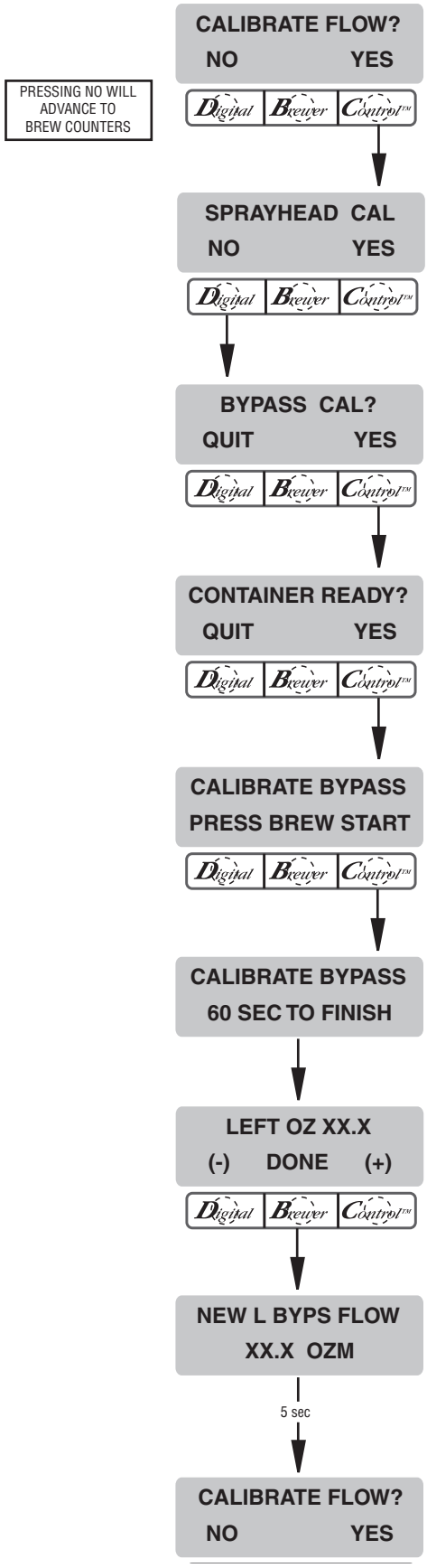


PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

CALIBRATE FLOW (Continued)

Procedure to calibrate the bypass flow rate:

1. Place a container, accurately graduated and with a minimum capacity of 60 ounces, beneath the funnel.
2. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **CALIBRATE FLOW**.
3. Press and release **YES** to advance to the **SPRAY HEAD CAL** function screen. Press and release **NO** to advance to **BYPASS CAL**.
4. Press and release the **YES** pad. The display should read **CONTAINER READY?** If the container is under the funnel, press **YES**.
5. The display should read **CALIBRATE BYPASS.** Press and release any **BREW** button on the side to be calibrated to begin the flow for calibration. The display should read **CALIBRATE BYPASS…60 SEC TO FINISH.** The 60-second timer on the display will count down to zero. When the counter reaches zero, the display will changes to **LEFT** or **RIGHT OZ/M**, along with a number.
6. Measure the amount of water in the container and using the **(-)** and **(+)** pads, adjust the amount of the display to match the amount in the container. Then press **DONE**.
7. The display should now read **NEW L** or **NEW R BYPS FLOW**, along with the correct flow rate of the bypass. After about 5 seconds, the display will return to the **CALIBRATE FLOW** screen.
8. Repeat steps 1-7 to calibrate the other side.
9. To exit the **CALIBRATE FLOW** function and advance to the next function screen, press and release NO. To exit programming, press and release either ON/OFF button to return to the **MAIN SCREEN**.



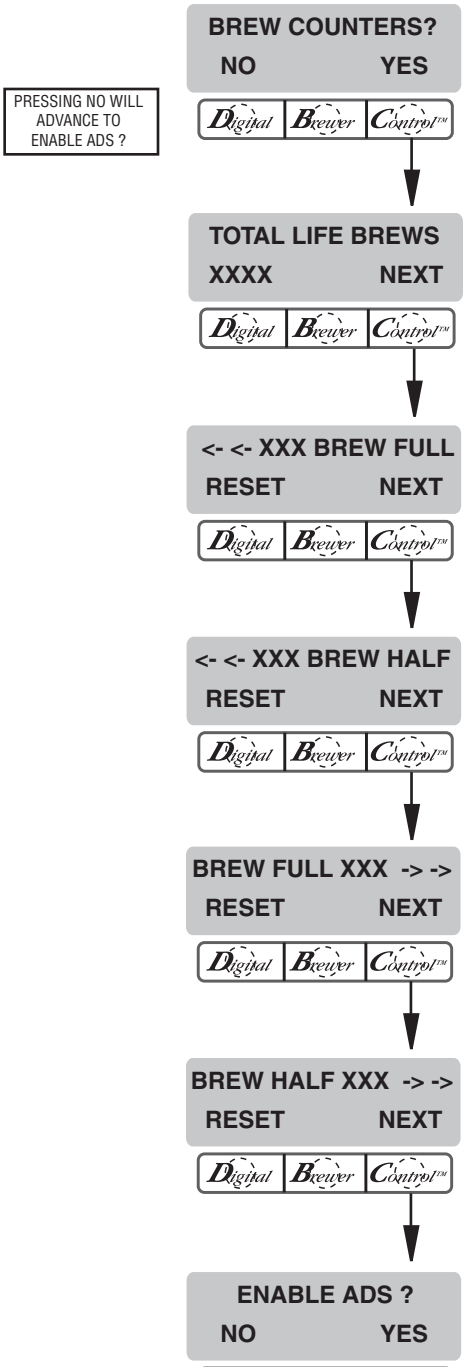
PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

BREW COUNTERS

This function allows the operator to track the total number of brew cycles completed, as well as the number of batches brewed using each of the brew buttons. There are four resettable counters, and one life counter that is not resettable.

Procedure to view/reset the brew counters:

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **BREW COUNTERS**.
2. Pressing **NO** will advance to the next programming function, **ENABLE ADS ?**. Press **YES** to view the first brew counter (**TOTAL LIFE BREWS**). This number represents the total number of brew cycles this brewer has completed. This counter is non-resettable. Press **NEXT** to advance to the next brew counter, <- <- **BREW FULL** (left side).
3. This counter represents the number of brews for aFull Brew on the left side of the brewer. To reset the counter to zero, press and release **RESET**. Press and release **NEXT** to advance to the next counter.
4. Repeat step 3 for the remaining left counter, **BREW HALF**.
5. Repeat step 4 for the two right side brew counters.
6. When finished, press **NEXT** to advance to the next programming function, **ENABLE ADS ?.** To exit programming, press and release either ON/OFF button to return to the **MAIN SCREEN.**



ENABLE ADS

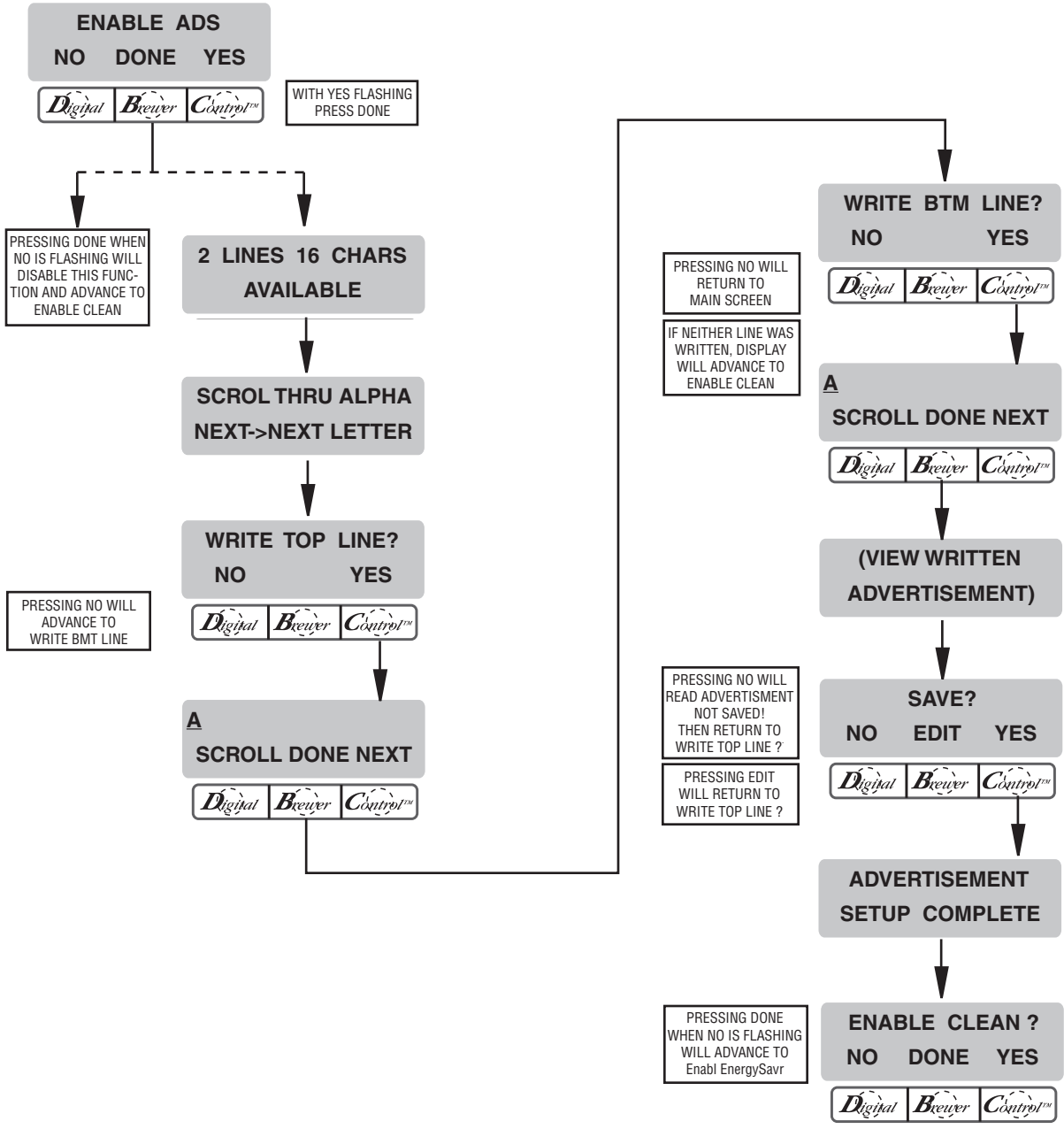
This function allows the operator to choose whether or not to display an advertising message. An ad can be saved to the brewer by either writing the ad using the programming commands, or by entering the ad into the brewer using an **AD CARD**. This message will be displayed when the brewer is not in use.

Procedure to Enable/Disable Ads:

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **ENABLE ADS**. The **YES** or **NO** will be flashing to indicate the current selection.
2. Press and release the **NO** button to disable this function, or:
3. Press and release the **YES** button to enable this function.
4. When finished, press and release **DONE** to save the new setting and advance to the next function screen.
5. If **NO** was selected, the display should now read **ENABLE CLEAN**. To exit programming and return to the **MAIN SCREEN**, press and release either ON/OFF pad.
6. If **YES** was selected, the display should now read **2 LINES 16 CHARS AVAILABLE**, and then **SCROL THRU ALPHA, NEXT -> NEXT LETTER,** and then **WRITE TOP LINE ?**. The ad can be up to 32 characters long, 16 per line. The ad will be written in two steps, first the top line, then the bottom line.
7. To write the top line of a new ad, press and release **YES.** To skip the top line and only write a bottom line, press and release **NO** and proceed to step 13.
8. The display will now read **A** with a flashing cursor below it. Press and hold the **SCROLL** button to scroll through the alphabet and available characters. When the desired character is shown on the display, press and release **NEXT** to move to the next character in the top line.
9. Repeat step 8 until the top line is complete.
10. Press and release **DONE**. The display should now read **WRITE BTM LINE?**.
11. To write the bottom line of the new ad, press and release **YES.**
12. To skip the bottom line, press and release **NO**.
    a. If neither a top nor bottom line was written, the display should now read **ENABL CLEAN ?**.
    b. If only a top line was written, the ad will be displayed followed by **SAVE?** Proceed to step 16.
13. The display will now read **A** with a flashing cursor below it. Press and hold the **SCROLL** button to scroll through the alphabet and available characters. When the desired character is shown on the display, press and release **NEXT** to move to the next character in the bottom line.
14. Repeat step 13 until the bottom line is complete.
15. Press and release **DONE**. The display will now show the written ad, and then **SAVE?**
16. To cancel saving the ad, press and release **NO**. The display should now read **ADVERTISEMENT NOT SAVED!** and then will return to the **WRITE TOP LINE ?** screen.
17. To correct or edit the ad, press and release **EDIT**. The display should now read **WRITE TOP LINE?** Repeat steps 10 though 17.
18. To save the ad as it is shown, press and release **YES**. The display should now read **ADVERTISEMENT SETUP COMPLETE**, and then **ENABL CLEAN**. To exit programming and return to the **MAIN SCREEN**, press and release either ON/OFF pad.

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

ENABLE ADS (Continued)


ENABLE ADS
NO DONE YES
Digital Brewer Control™
WITH YES FLASHING PRESS DONE
PRESSING DONE WHEN NO IS FLASHING WILL DISABLE THIS FUNC-TION AND ADVANCE TO ENABLE CLEAN
2 LINES 16 CHARS AVAILABLE
SCROL THRU ALPHA NEXT->NEXT LETTER
WRITE TOP LINE?
NO YES
PRESSING NO WILL ADVANCE TO WRITE BMT LINE
A
SCROLL DONE NEXT
WRITE BTM LINE?
NO YES
PRESSING NO WILL RETURN TO MAIN SCREEN
IF NEITHER LINE WAS WRITTEN, DISPLAY WILL ADVANCE TO ENABLE CLEAN
A
SCROLL DONE NEXT
(VIEW WRITTEN ADVERTISEMENT)
SAVE?
NO EDIT YES
PRESSING NO WILL READ ADVERTISMENT NOT SAVED! THEN RETURN TO WRITE TOP LINE ?
PRESSING EDIT WILL RETURN TO WRITE TOP LINE ?
ADVERTISEMENT SETUP COMPLETE
ENABLE CLEAN ?
NO DONE YES
PRESSING DONE WHEN NO IS FLASHING WILL ADVANCE TO Enabl EnergySavr

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

ENABL CLEAN

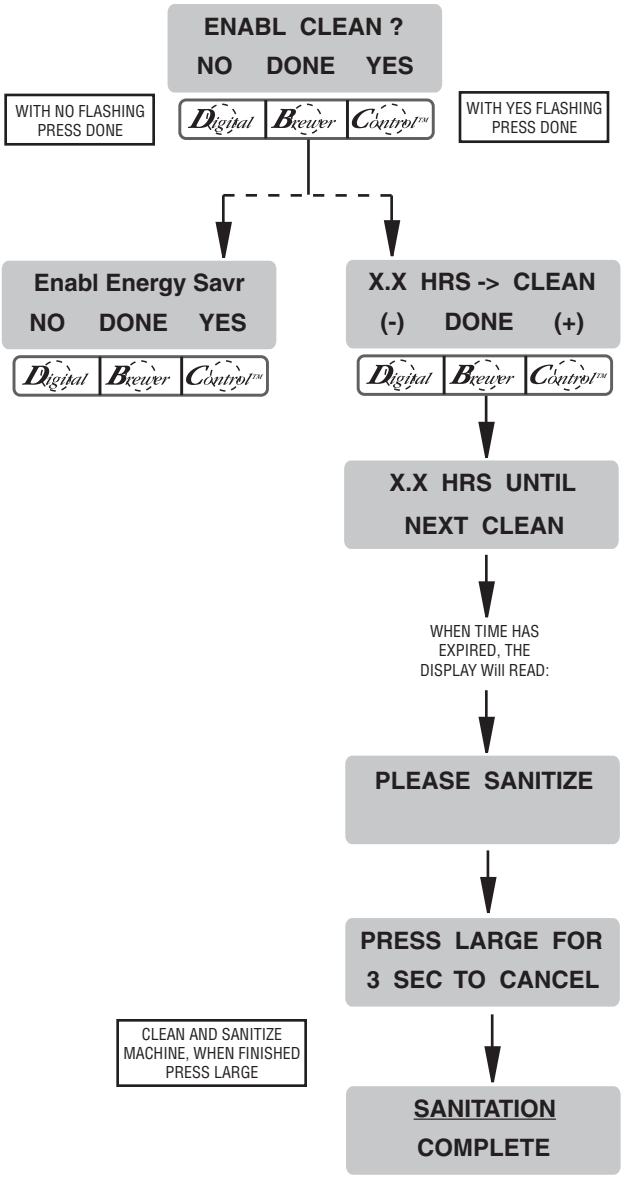
This function allows the operator to enable the sanitation function and set the time before a cleaning alert will be displayed.

Procedure for enabling clean:
Range: 0.0 to 72.0 hrs

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until display reads **ENABL CLEAN?**. The **YES** or **NO** will be flashing to indicate the current selection.
2. Press and release the **NO** button to disable this function (no clean alert will be displayed on the screen), or:
3. Press and release the **YES** button to enable this function (a clean alert will be displayed on the screen).
4. When finished, press and release **DONE** to save the new setting and advance to the next function screen.
5. If **NO** was selected, the display should now read **Enabl EnergySavr**. To exit programming and return to the **MAIN SCREEN**, press and release either ON/OFF pad.
6. If **YES** was selected, the display should now read **X.X HRS -> CLEAN**. This screen allows the operator to set the amount of time from when a brew is completed until a clean alert will be displayed. Use **(-)** and **(+)** to adjust the set time. When finished, press and release **DONE.**

NOTE: The timer will not begin until after a brew cycle has been completed.

7. The display should now read **X.X HRS UNTIL NEXT CLEAN**, and then advance to the next programming function, **ENABLE ENERGYSAVR**.
8. Once the set time has expired, the display will read **PLEASE SANITIZE**, and then **PRESS LARGE FOR 3 SEC TO CANCEL**.
9. Clean and sanitize the machine.
10. When finished, press and hold the LARGE batch button to reset the Sanitation timer. The display should now read **SANITATION COMPLETE** and then will return to the **MAIN SCREEN**.


ENABL CLEAN ?
NO DONE YES
WITH NO FLASHING PRESS DONE
WITH YES FLASHING PRESS DONE
Enabl Energy Savr
NO DONE YES
X.X HRS -> CLEAN
(-) DONE (+)
X.X HRS UNTIL NEXT CLEAN
WHEN TIME HAS EXPIRED, THE DISPLAY Will READ:
PLEASE SANITIZE
PRESS LARGE FOR 3 SEC TO CANCEL
CLEAN AND SANITIZE MACHINE, WHEN FINISHED PRESS LARGE
SANITATION COMPLETE

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

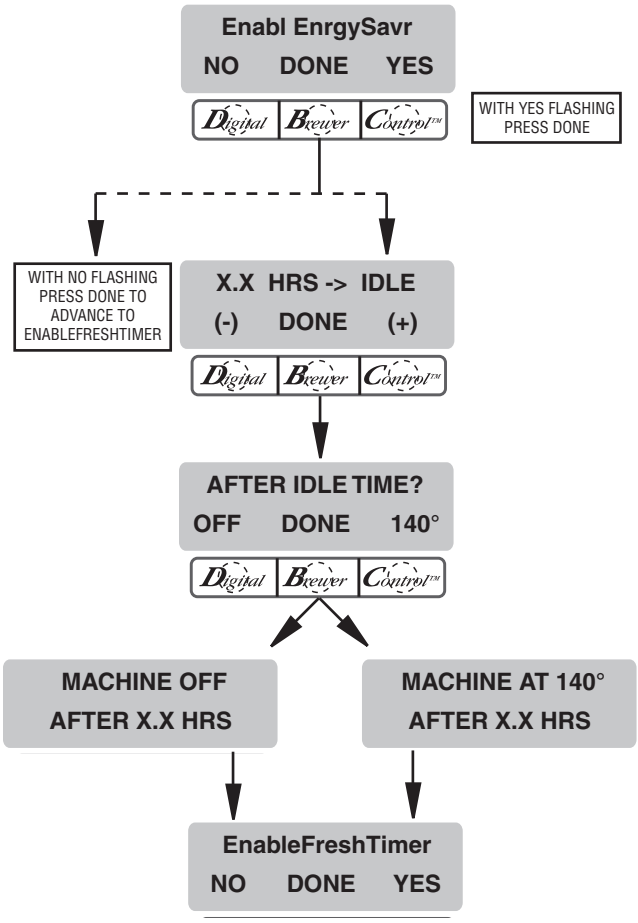
ENABLE ENERGYSAVR

This function allows the operator to enable the ENERGY SAVINGS mode function and set the idle time. Once the set idle time has expired, the operator can choose to have the heaters either turn off, or reduce the tank holding temp to 140° F (60° C).

Procedure to enable energy savings mode:
Range: 0.5 to 24.0 hrs

If enabled, default setting is 140° F (60° C) tank temperature after 4.0 hrs. idle time.

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **Enabl EnergySavr**. The **YES** or **NO** will be flashing to indicate the current selection.
2. Press and release the **NO** button to disable this function, or:
3. Press and release the **YES** button to enable this function (the heaters will either turn off or the tank will hold at 140° F).
4. When finished, press and release **DONE** to save the new setting and advance to the next function screen.
5. If **NO** was selected, the display should now read **EnableFreshTimer**. To exit programming and return to the **MAIN SCREEN**, press and release either ON/OFF pad.
6. If **YES** was selected, the display should now read **X.X HRS -> IDLE**. This screen allows the operator to set the amount of time the brewer is not in use before nap mode engages. Using **(-)** and **(+)**, adjust the idle time. When finished, press and release **DONE.**
7. The display should now read **AFTER IDLE TIME?** Once the set idle time has expired, the heaters can either be shut off or held at a lower temperature of 140° F.
8. To have the machine shut off after the set idle time, press and release **OFF** and then **DONE** to save the settings. The display should read **MACHINE OFF AFTER X.X HRS,** and then **EnableFreshTimer.**
9. To have the heaters hold at the lower 140° F temperature, press and release **140°** and then **DONE** to save the settings. The display should read **MACHINE AT 140° AFTER X.X HRS**, and then **EnableFreshTimer.**
10. Once the idle time has expired, the display will read either **ENERGY SAVER…NO TEMPERATURE** or **ENERGY SAVER…REDUCED TEMPERATURE**, depending on the settings. This screen will alternate with **PRESS ANY SWITCH TO RE-HEAT**.



PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

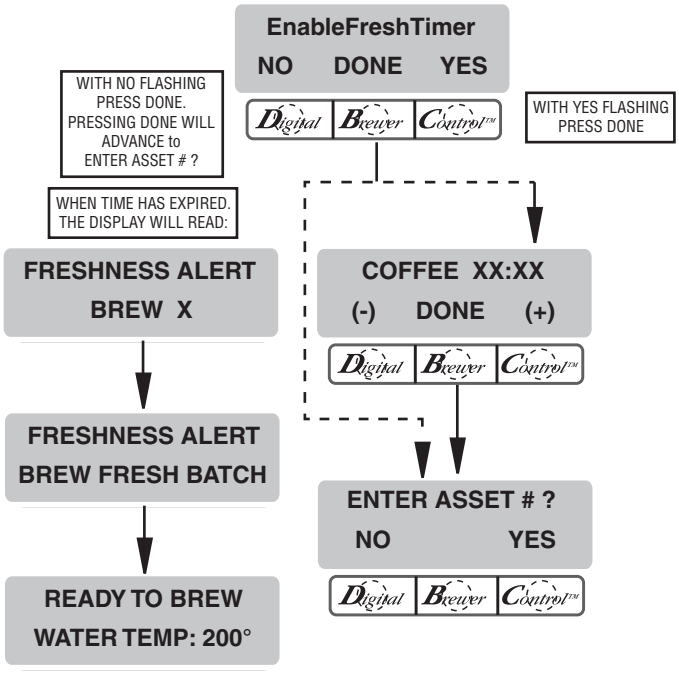
ENABLE FRESH TIMER

This function allows the operator to enable the Freshness Alert and set the expiration time. The expiration time is the amount of time the product is allowed to sit in the server/dispenser before a fresh batch is brewed.

Procedure for enabling/setting the Freshness Timer:
Range: Coffee 0.5 to 4.0 hrs

If enabled, default setting is 2.0 hrs.

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **Enable Fresh-Timer**.
2. Press and release the **NO** button to disable this function, or:
3. Press and release the **YES** button to enable this function (the unit will display a message once the set time has expired).
4. When finished, press and release **DONE** to save the new setting and advance to the next function screen.
5. If **NO** was selected, the display should now read **ENTER ASSET # ?**. To exit programming and return to the **MAIN SCREEN**, press and release either ON/OFF pad.
6. If **YES** was selected, the display should now read **COFFEE**. This screen allows the operator to set the amount of time from the end of brewing a batch of coffee until a Freshness Alert message will be displayed. Using **(-)** and **(+)**, adjust the freshness time for coffee . When finished, press and release **DONE.**
7. This display should now read **ENTER ASSET # ?.** To exit programming and return to the **MAIN SCREEN**, press and release either ON/OFF pad.
8. Once the set time has expired, the display will read **FRESHNESS ALERT BREW**, and then **FRESHNESS ALERT BREW FRESH BATCH** alternating with the **MAIN SCREEN**.
9. Empty the server/dispenser the previous batch was brewed into and replace under the funnel.
10. Brew a new batch
11. The freshness timer will reset. The display should now return to the **MAIN SCREEN**.



PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

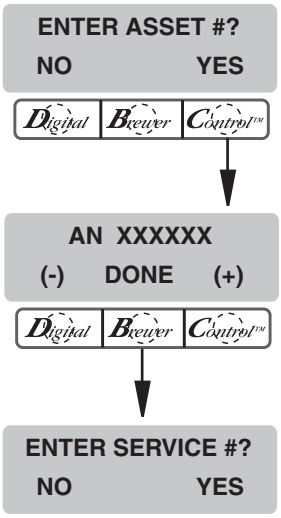
ASSET NUMBER

This function allows the operator to enter the machine's asset number. This can be useful for tracking the usage or service of an individual machine within a group.

Procedure to enter the asset number:

1. Press and hold the right hidden button until the display reads **SET LANGUAGE**. Press the right hidden button until the display reads:
   ENTER ASSET #?
2. Press and release **YES**. The display will now read **ANXXXXXX**.
3. Using **(-)** and **(+)**, set the asset number of the machine.
4. When finished, press and release **DONE**. The display will now read **ENTER SERVICE #?**.

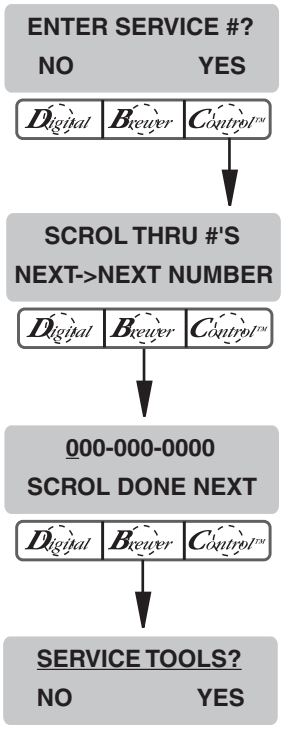
NOTE: See page 8 for steps on how to view the Asset Number.



PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

SERVICE NUMBER

This function allows the operator to enter in the telephone number to call if service is needed. The service number will be displayed anytime there is a fault message displayed (see *Troubleshooting on* page 46).



Procedure to enter the service number:

1. Press and hold the right hidden button until the display reads **SET LANGUAGE**. Press the right hidden button until the display reads:
   ENTER SERVICE #?
2. Press and release **YES**. The display will now read **SCROL THRU #'S NEXT ->NEXT NUMBER,** followed by **000-000-0000**. UP TO 16 CHARACTERS ARE AVAILABLE.
3. Press the **SCROL** button to scroll through the numbers. When the desired number is shown, press and release **NEXT** to move to the next digit in the phone number.
4. Repeat Step 3 until the entire number is entered.
5. Press and release **DONE**. The display will now read **SERVICE TOOLS?**

SERVICE TOOLS

This function allows the testing of individual components and the ability to check switches for proper function. This function also tests the funnel sensor coil's frequency (diagnostic tool for troubleshooting purposes only).

Procedure to test components and outputs:

The following components can be individually tested:
Left Brew Valve
Left Bypass Valve
Left Funnel Lock
Right Brew Valve
Right Bypass Valve
Right Funnel Lock
Refill Valve
Tank Heater Relay
Tank Heater Triac

1. Place a funnel into the rails on both sides of the brewer.
2. Place a server beneath each funnel.
3. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **SERVICE TOOLS**.
4. Press and release **YES**. The display should now read **TEST OUTPUTS?** Press and release **YES** to test individual components and outputs. Pressing **NO** will advance to the next programming function, **TEST SWITCHES**.
5. The display should now read **<- <- BREW VALVE**. To test the left brew valve, press **ON**. If the brew valve is functional, water should run from the left funnel.
6. Press **OFF** to end the flow of water.
7. Press **NEXT** to advance to the next component to be tested.

NOTE: To bypass testing any component, press **NEXT** to advance to the next component without testing the previous one.

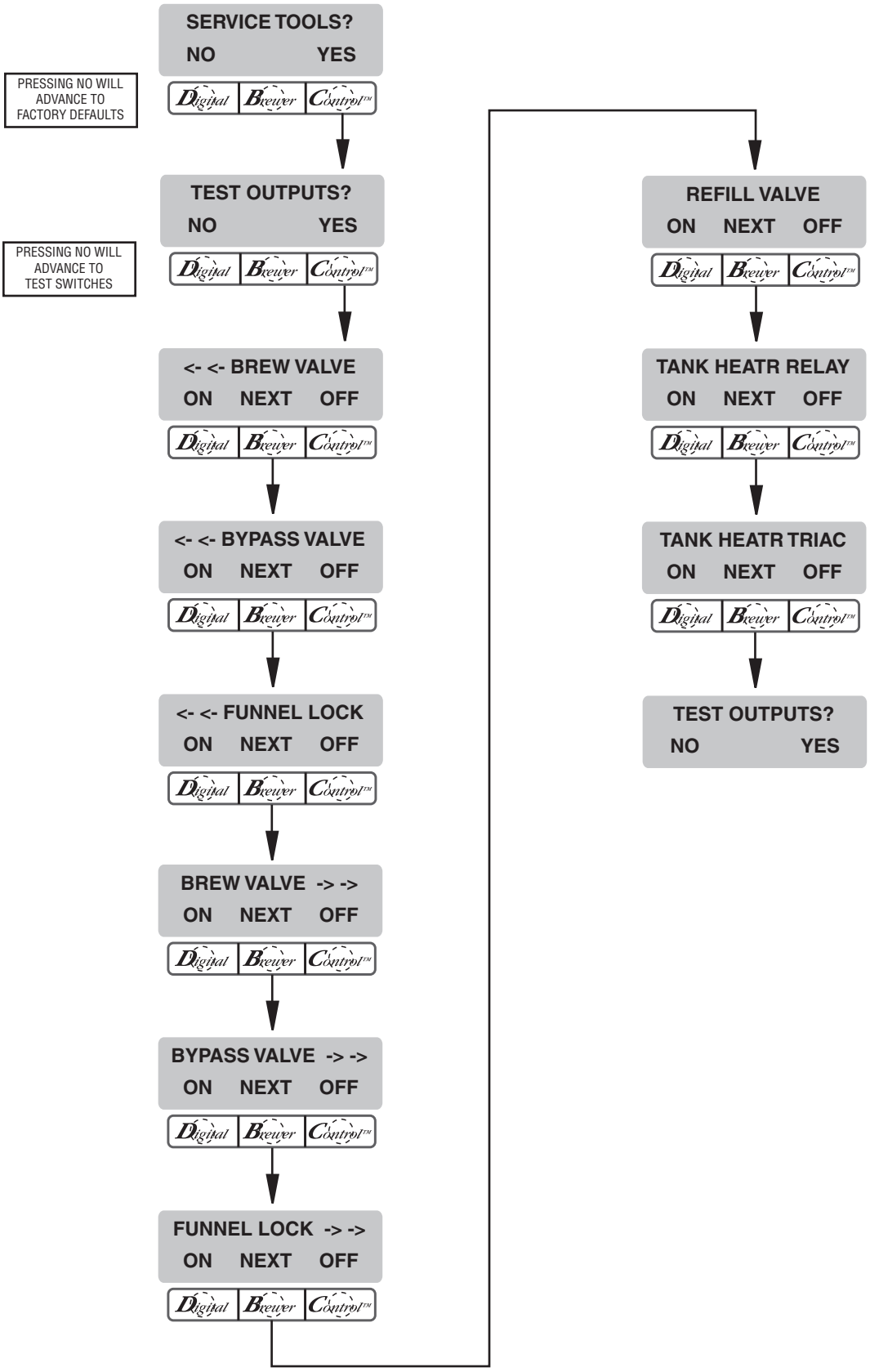
8. The display should now read **<- <- BYPASS VALVE**. To test the left bypass valve, press **ON**. If the bypass valve is functional, water should run from the left funnel.
9. Press **OFF** to end the flow of water.
10. Press **NEXT** to advance to the next component to be tested, **<- <- FUNNEL LOCK**.
11. To test the left **FUNNEL LOCK**, press **ON**. If the funnel lock is functional, the lock will drop to hold funnel in place.
12. Press **OFF** to retract the funnel lock.
13. Follow steps 5-12 to test the right side components.
14. To test the **REFILL VALVE**, press **ON**. If the refill valve is functional, the sound of the valve operating will be heard.
15. Press **OFF** to end testing of the refill valve.
16. Press **NEXT** to advance to the next component to be tested, **TANK HEATR RELAY.**
17. To test the tank heater relay, connect a voltmeter across each of the tank heaters to check for voltage.
18. Press **ON.** The correct voltage should be present at the heater terminals.
19. Press **OFF** to end testing of the tank heater relay.

NOTE: The tank heater will automatically turn off if left on too long.

20. Press **NEXT** to advance to the next component to be tested, **TANK HEATR TRIAC.**
21. To test the tank heater triac, connect a voltmeter across each of the tank heaters to check for voltage.
22. Press **ON.** The correct voltage should be present at the heater terminals.
23. Press **OFF** to end testing of the tank heater triac.
24. Press **NEXT** to return to the **TEST OUTPUTS** screen. To advance to the next function screen, **TEST SWITCHES**, press **NO.** To exit programming, press and release either ON/OFF button to return to the **MAIN SCREEN.**

PROGRAMMING THE BREWER (cont.)

PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)



PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

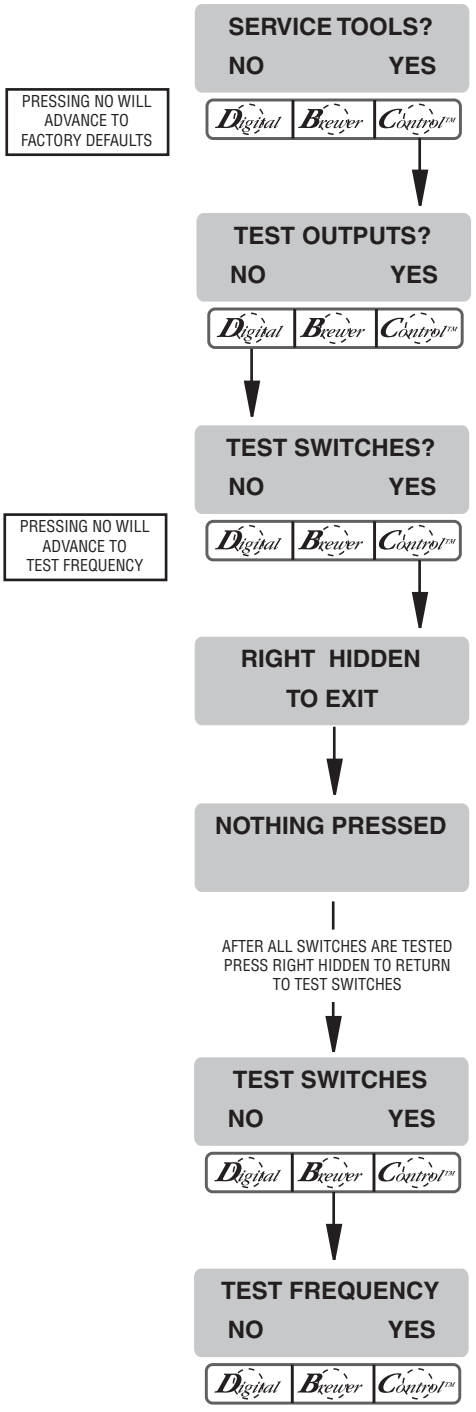
Procedure to test switches:

The following switches can be individually tested:

<- <- Full Batch	Full Batch -> ->
<- <- Half Batch	Half Batch -> ->
<- <- Power	Power -> ->
<- <- Brew Switch	Brew Switch -> ->
Left Hidden	DONE
(-)	(+)

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **SERVICE TOOLS**.
2. Press and release **YES**. The display should now read **TEST OUTPUTS?** Press and release **NO** to advance to **TEST SWITCHES**.
3. Press and release **YES.** The display should now read **RIGHT HIDDEN TO EXIT**, and then **NOTHING PRESSED.**
4. From this screen, press any of the switches on the front of the brewer. While the switch is pressed, the display shows the name of that switch. If the name does not appear, or if it remains after the switch has been released, the switch is defective. Each switch can be tested in this manner.

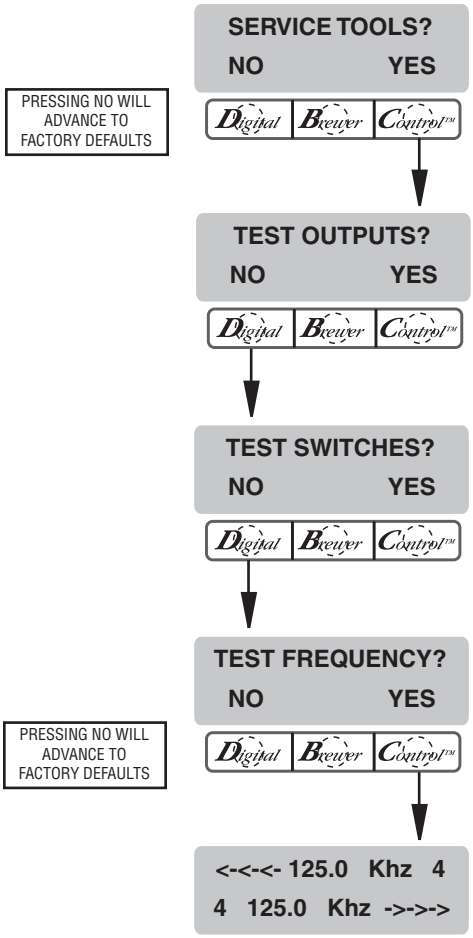
After all switches have been tested, press and release the right hidden button to return to the **TEST SWITCHES** screen. To exit programming, press and release either ON/OFF button to return to the **MAIN SCREEN.**



PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

Procedure to test coil frequency:

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **SERVICE TOOLS**.
2. Press and release **YES**. The display should now read **TEST OUTPUTS?** Press and release **NO** to advance to **TEST SWITCHES**.
3. Press and release **NO** to advance to **TEST FREQUENCY.**
4. The display should now show the frequency of the sensor coil circuits. This is for diagnostic service use when troubleshooting this circuit.
5. After the coils have been tested, press and release either ON/OFF button to return to the **MAIN SCREEN.**



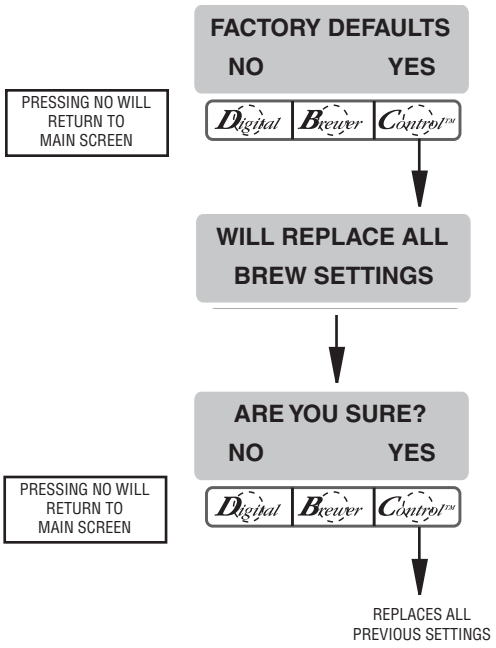
PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

FACTORY DEFAULTS

This function allows the operator to erase **ALL** of the previously entered recipes and ad messages. Factory-set default values will replace **ALL** previous settings.

Procedure to set factory defaults:

1. Press and hold the right hidden button until the display reads **SET LANGUAGE.** Press the right hidden button until the display reads **FACTORY DEFAULTS**.
2. Pressing **NO** will return to the **MAIN SCREEN.** Press **YES** to restore defaults. The display will read **WILL REPLACE ALL BREW SETTINGS** followed with **ARE YOU SURE?**
3. Pressing **NO** in this confirmation screen will revert to the **MAIN SCREEN** without resetting the brewing setups to the defaults. Press **YES** to load the defaults. After factory defaults have been restored, the display will return to the **MAIN SCREEN**. The factory default valves will have replaced **ALL** previously entered values. It will NOT reset the life brew counter. If factory defaults are restored, it will be necessary to recalibrate the flow rates. Refer to pages 30-31.



PROGRAMMING FUNCTIONS - LEVEL 2 (cont.)

FACTORY DEFAULT VALUES

Brew Lockout - Enabled

Language - English

Units - English

BREW VOLUMES
Half Batch – 192 OZ
Full Batch – 384 OZ

% BYPASS
Half Batch – 0 %
Full Batch – 20 %

PULSE BREW TIMES
Half Batch – Manual :1:00/:10/:12
Full Batch – Manual :Disabled

DRIP OUT TIMES
Half Batch – 2:00
Full Batch – 3:00

Set Temp – 205°

Ready Temp 200°

Enable Ads – Disabled

Enable Clean – Disabled

Enable Energy Saver Mode – Disabled
IDLE – 4 HRS, THEN 140°

Enable Freshness Timer
COFFEE – 2 HRS

L Spry Oz/m – 86.0
R Spry Oz/m – 86.0

L Byps Oz/m – 53.0
R Byps Oz/m – 53.0

For 17 Hole Sprayhead

TROUBLESHOOTING

A troubleshooting guide is provided to suggest probable causes and remedies for the most likely problems encountered. If the problem remains after exhausting the troubleshooting steps, contact the Bunn-O-Matic Technical Service Department.

- Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel.
- All electronic components have 120-240 volt ac and low voltage dc potential on their terminals. Shorting of terminals or the application of external voltages may result in board failure.
- Intermittent operation of electronic circuit boards is unlikely. Board failure will normally be permanent. If an intermittent condition is encountered, the cause will likely be a switch contact or a loose connection at a terminal or crimp.
- Solenoid removal requires interrupting the water supply to the valve. Damage may result if solenoids are energized for more than ten minutes without a supply of water.
- The use of two wrenches is recommended whenever plumbing fittings are tightened or loosened. This will help to avoid twists and kinks in the tubing.
- Make certain that all plumbing connections are sealed and electrical connections tight and isolated.
- This brewer is heated at all times. Keep away from combustibles.

WARNING –
- Exercise extreme caution when servicing electrical equipment.
- Unplug the brewer when servicing, except when electrical tests are specified.
- Follow recommended service procedures.
- Replace all protective shields or safety notices.

PROBLEM	PROBABLE CAUSE	REMEDY
Temperature Too Low	1. Water temperature in the tank does not meet the ready temperature.	A) Wait for the brewer to heat to the proper temperature. B) Disable the **BREW LOCKOUT** function. See page 13 for procedure.
Heating Time Too Long	1. Tank Heater failure.	Service required
	2. Control Board/Thermistor failure	Service required
Fill Time Too Long	1. Water shut off to brewer	Check water supply shut-off
	2. Inlet Solenoid failure	Service Required
	3. Control Board Failure	Service Required
	4. ON/OFF switch is OFF	Turn switch ON
Temp Sensor Out Of Range, Check For Bad Connections	1. Temperature Sensor Probe wire(s) broken or not making connection	Check wire and connection of both black and white wires of temperature probe.
Temp Sensor Out Of Range, Check Wire For Shorts	1. Temperature Sensor Probe wire(s) shorted to housing or to each other.	Check to confirm that wire(s) are not pinched between two surfaces or connected to each other.
Equipment will not operate	1. No power or incorrect voltage	Measure the voltage at the terminal block and confirm that it matches the voltage specified on the brewer data plate withing +/- 10%.

PROBLEM	PROBABLE CAUSE	REMEDY
Brew cycle will not start	1. No water	Check plumbing and shut-off valves
	2. No power or incorrect voltage to the brewer	Check for voltage across the terminals at the terminal block.
	3. ON/OFF switch	Test the ON/OFF switch. Refer to the test switch procedures on page 42.
	4. Brew switch	Test the BREW switch. Refer to the test switch procedures on page 43.
	5. Brew valve	Test the brew valve. Refer to the test outputs procedures on page 40.
	6. Control Board	Substitute a control board known to be in good working order.

PROBLEM	PROBABLE CAUSE	REMEDY
Automatic refill will not operate or display shows FILL TIME TOO LONG	1. No water	Check plumbing and shut-off valves
	2. Refill probe or Sensitivity setting	Remove the strainer and check for obstructions. Clear or replace.
	3. Refill valve	Check the sensitivity setting. Refer to the **REFILL** function on page 27. If the left three digit number is less than the right number, the machine “thinks” it is full and the refill valve should be off. If the left number is larger than the right, then the refill valve will automatically be turned on to fill the tank. The right number is the threshold setting and can be adjusted to compensate for extreme water conditions: very pure, low conductance water requires a higher setting, while high mineral content, high conductance water requires a lower setting. Note that the left number changes from a high value when water is NOT touching the refill probe to a low valve when water IS touching the probe. For best operation, the right number should be set to a value midway between these low and high numbers. Before changing the setting, confirm that the refill probe is free of scale buildup and the connection to it is secure. Test the refill valve. Refer to the test outputs procedures on page 40.

PROBLEM	PROBABLE CAUSE	REMEDY
Automatic refill will not operate or display shows FILL TIME TOO LONG (Continued)		Refill valve – Disconnect the brewer from the power source and remove wires from refill valve coil. Check for continuity across the terminals of the solenoid coil. If continuity is not present, replace the refill valve. If continuity is present, the coil may be stuck closed. Shut water off to brewer. Press the ON/OFF switch to turn off the brewer. Open the faucet and drain water down in the tank until flow stops or slows to a trickle. Attach a voltmeter to the terminals of the refill solenoid. Connect the brewer to the power source. Press the ON/OFF switch to turn the brewer on. Within five seconds, voltage should be present at the solenoid terminals. If voltage is not present, refer to the wiring schematic and check the wiring harness.
	4. Control Board	Substitute a control board known to be in good working order.
	5. ON/OFF Switch	ON/OFF switch must be ON for the refill circuit to operate. Turn ON.

PROBLEM	PROBABLE CAUSE	REMEDY
Water flows into tank continuously with power removed from brewer.	1. Refill valve	Foreign material lodged in valve, holding it in open state.
	2. Refill probe or sensitivity setting	Check the sensitivity setting. Refer to the **REFILL** function on page 27. If the left three digit number is less than the right number, the machine "thinks" it is full and the refill valve should be off. If the left number is larger than the right, then the refill valve will automatically be turned on to fill the tank. The right number is the threshold setting and can be adjusted to compensate for extreme water conditions: very pure, low conductance water requires a higher setting, while high mineral content, high conductance water requires a lower setting. Note that the left number changes from a high value when water is NOT touching the refill probe to a low valve when water IS touching the probe. For best operation, the right number should be set to a value midway between these low and high numbers. Before changing the setting, confirm that the refill probe is free of scale buildup and the connection to it is secure.
	3. Control Board	Substitute a control board known to be in good working order.

PROBLEM	PROBABLE CAUSE	REMEDY
Water will not heat or display shows HEATING TIME TOO LONG.	1. Limit Thermostat	Remove power from the brewer. Check for continuity through the limit thermostat. **CAUTION:** Do not eliminate or bypass limit thermostat. Use only replacement part 23717.0003.
	2. Temperature probe	Remove the probe from the grommet and submerge in a water bath of approximately 70°F (21°C). Connect an ohmmeter to the pins in the connector. At 60°F (16°C), the reading should be 15.3k ± 2k OHMS, at 70°F (21°C) the reading should be 11.8k ± 2k OHMS, and at 80°F (27°C) the reading should be 9.3k ± 2k OHMS. If the probe is within these parameters, reconnect to the control board.
	3. Tank heaters	Remove power from the brewer. Check for continuity through the tank heaters. If no continuity is present, check for a wiring problem (consult wiring schematic), then replace the tank heater if no wiring problem is found.
	4. Control Board	Remove power from the brewer. Connect a voltmeter across the tank heater. Reapply power to the brewer and refer to testing outputs on page 40. If the voltage measured when the tank heater is turned on is very low or zero, then substitute a control board know to be good working order.

PROBLEM	PROBABLE CAUSE	REMEDY
No bypass water	1. Bypass valve	Test the bypass valve. Refer to the test outputs procedures on page 40.
Spitting or unusual steaming from sprayhead or air vent.	1. Lime buildup	Inspect the probe and tank assembly for excessive lime deposits. Delime as required.
	2. Temperature probe	Remove the probe from the grommet and submerge in a water bath of approximately 70°F (21°C). Connect an ohmmeter to the pins in the connector. At 60°F (16°C), the reading should be 15.3k ± 2k OHMS, at 70°F (21°C) the reading should be 11.8k ± 2k OHMS, and at 80°F (27°C) the reading should be 9.3k ± 2k OHMS. If the probe is within these parameters, reconnect to the control board.
	3. Control Board	Remove power from the brewer. Connect a voltmeter across the tank heater. Reapply power to the brewer and refer to testing outputs on page 40. If the voltage measured when the tank heater is turned on is very low or zero, then substitute a control board know to be good working order.

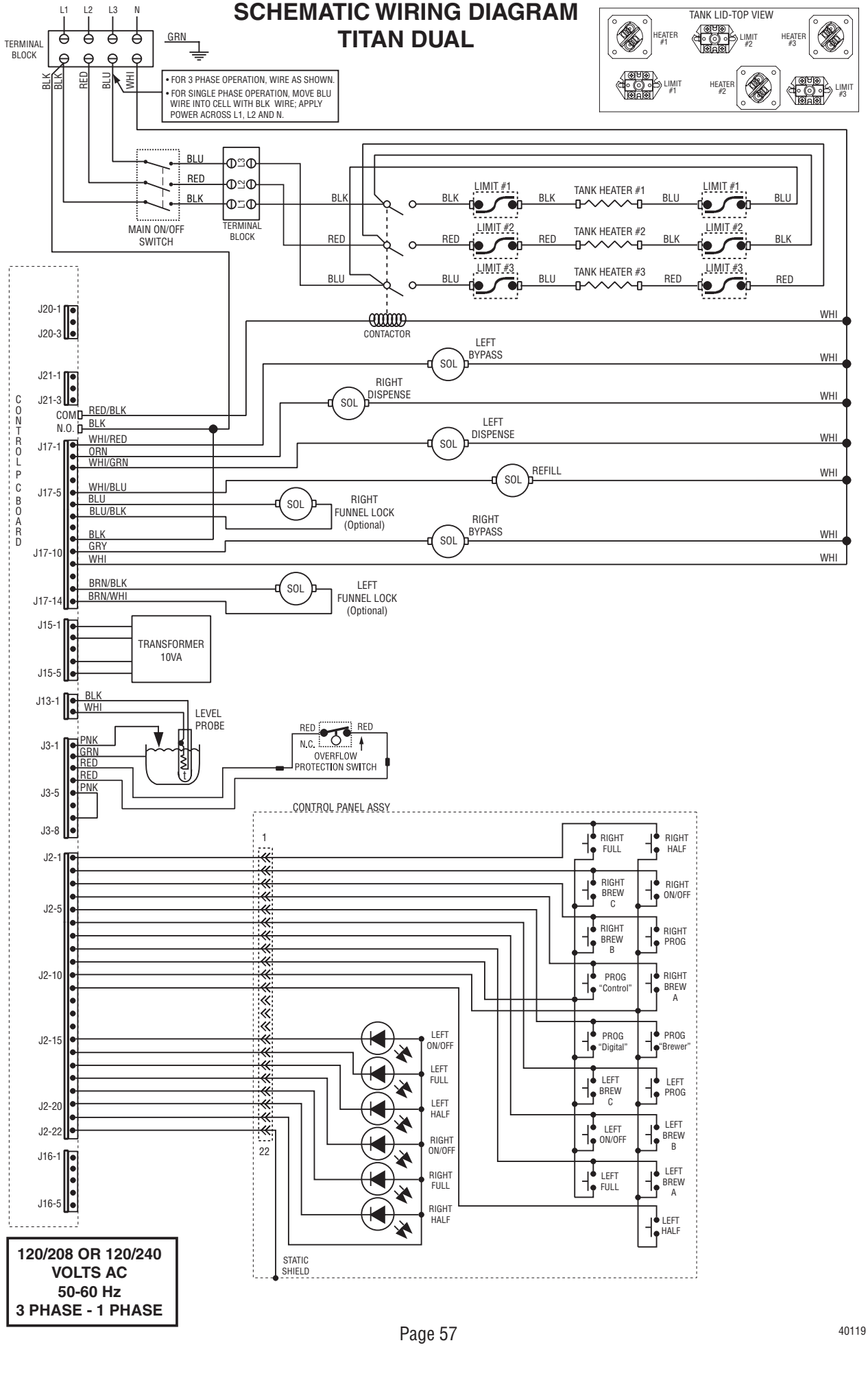
PROBLEM	PROBABLE CAUSE	REMEDY
Inconsistent beverage level in server/dispenser	1. Improper water pressure	Check operating water pressure to the brewer. It must be between 20 and 90 psi (138 and 620 kPa).
	2. Brew valve	Test the brew valve. Refer to test outputs on page 40. Turn the valve on for 30 seconds and collect the water dispensed from the sprayhead. Repeat the test several times to confirm a consistent volume of dispensed water. If not consistent, check the valve, tubing and sprayhead for lime buildup.
	3. Bypass valve	If bypass is being used on the inconsistent brew, test the bypass valve. Refer to test outputs on page 40. Turn the valve on for 30 seconds and collect the water collected from the funnel. Repeat the test several times to confirm a consistent volume of dispensed water. If not consistent, check the valve, tubing and fittings for lime buildup.
	4. Lime buildup	Inspect for lime buildup that could block the tank, tank fittings, tubing, valves and sprayhead.
	5. Brew volume adjustment	Adjust the brew volume, calibrate sprayhead and bypass as required to achieve the desired volume for each brew cycle.

TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Dripping from sprayhead.	1. Brew valve	Repair or replace leaky valve
Water overflows filter.	1. Type of paper filter	BUNN paper filters should be used for proper extraction
	2. No sprayhead	Check sprayhead
Beverage overflows server.	1. Beverage left in server from previous brew	The brew cycle should be started only with an empty server under the funnel.
	2. Brew volume adjustment	Adjust the brew volume, calibrate sprayhead and bypass as required to achieve the desired volume for each brew cycle
Brewer is making unusual noises.	1. Solenoids	The mounting screws on the solenoids must be tight or they will vibrate during operation
	2. Plumbing lines	Plumbing lines should not be resting on the countertop.
	3. Water supply	The brewer must be connected to a cold water line. Water pressure to the brewer must not be higher than 90 psi (620 kPa). Install a regulator if necessary to lower the working pressure to approximately 50 psi (345 kPa).
	4. Tank heaters	Remove and clean lime off tank heaters.

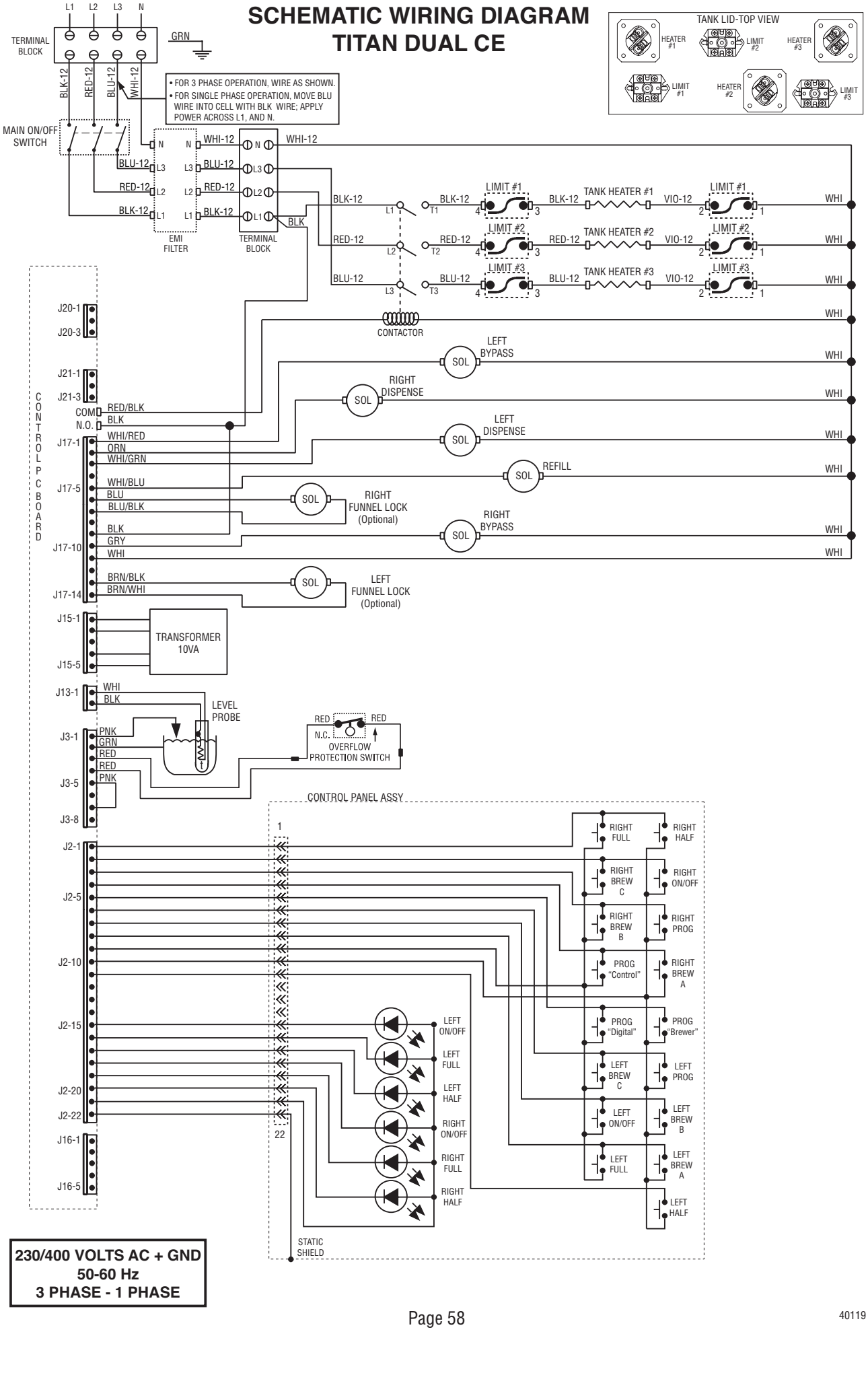
PROBLEM	PROBABLE CAUSE	REMEDY
Weak beverage.	1. Type of paper filter	BUNN paper filters should be used for proper extraction
	2. Coffee	A sufficient quantity of fresh drip or regular grind should be used for proper extraction.
	3. Sprayhead	Bunn-O-Matic sprayhead should be used to properly wet the bed of ground coffee in the funnel
	4. Funnel Loading	The BUNN paper filter should be centered in the funnel and the bed of grounds leveled by gently shaking. Use the four wire loops on the funnel to hold filter in place while brewing.
	5. Water temperature	Empty the server, remove its cover, and place the server beneath the sprayhead. Place empty funnel over the server entrance (not in the funnel rails). Press brew. Check the water temperature immediately below the sprayhead with a thermometer. The reading should not be less than 195°F (90°C).

SCHEMATIC WIRING DIAGRAM
TITAN DUAL



120/208 OR 120/240 VOLTS AC 50-60 Hz 3 PHASE - 1 PHASE

SCHEMATIC WIRING DIAGRAM
TITAN DUAL CE



230/400 VOLTS AC + GND
50-60 Hz
3 PHASE - 1 PHASE